

The SOUTHERN ECONOMIC JOURNAL

Volume XXIV

April 1958

Number 4

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A JOINT PUBLICATION OF THE SOUTHERN ECONOMIC ASSOCIATION
AND THE UNIVERSITY OF NORTH CAROLINA

Published Quarterly at Chapel Hill, N. C.

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All communications should be addressed to G. T. Schwenning, Managing Editor, The Southern Economic Journal, P. O. Box 1289, Chapel Hill, N. C.

Microfilm editions of this Journal are available to regular subscribers only and may be obtained at the completion of the volume by writing to University Microfilms, 313 North First Street, Ann Arbor, Michigan.

The articles in this Journal are indexed in *The International Index to Periodicals*.

The Southern Economic Association and the University of North Carolina, joint publishers of this Journal, assume no responsibility for statements made by contributors.

Entered as second-class matter on May 11, 1936, at the Post Office at Chapel Hill, North Carolina under the act of March 3, 1879, section 520, P. L. & R.

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TWENTY-FOURTH PRESIDENT OF THE SOUTHERN ECONOMIC ASSOCIATION, 1952-1953

The SOUTHERN ECONOMIC JOURNAL

VOLUME XXIV

April 1958

NUMBER 4

A THEORY OF BARGAINING WITH INTERPERSONAL COMPARISONS OF UTILITY¹

EDWARD COEN

University of Minnesota

This paper defends the thesis that, in the simple case of bargaining between only two individuals, there will be a tendency to agree upon that bargain which will, in the opinion of these two persons, yield them approximately equal utility gains. We thus assume that the two negotiators base their decisions upon estimates which purport to compare each other's anticipated utility gains, whereas the general rule hitherto has been to avoid resort to interpersonal utility comparisons.

It is admitted that the utilities of two persons, *A* and *B*, may be different things and therefore not comparable, and that, even if these two utilities should be homogeneous, there exists no reliable technique for comparing their magnitudes. It is simultaneously claimed, however, that most people believe that the utilities of different persons are usually sufficiently similar to be comparable, that most people do make interpersonal utility estimates (with varying degrees of confidence in their accuracy), and that these estimates influence many decisions.

Now the nature of an interpersonal utility comparison suggests that it might frequently be a factor in decisions affecting the distribution of economic welfare, e.g., choosing between one situation where *A* and *B* would respectively enjoy given levels of utility, and another situation where *A*'s utility would be reduced and *B*'s increased. But bargaining decisions fall precisely into this category, and therefore we should be prepared to consider the possibility that bargainers might make interpersonal utility comparisons.

I. BASIC CONCEPTS

Calling the bargainers *A* and *B*, we assume that they have perfect knowledge of each other's utility functions (including the magnitudes of the relevant variables), that these functions are of the von Neumann-Morgenstern type,² and that they are not interdependent.

¹ After this paper was completed, the writer discovered that his solution had been anticipated by Howard Raiffa, "Arbitration Schemes for Generalized Two-Person Games" in *Contributions to the Theory of Games*, Volume II, 1953, edited by H. W. Kuhn and A. W. Tucker. A brief summary of this article appears in R. Duncan Luce and Howard Raiffa, *Games and Decisions*, Wiley, 1957, pp. 143-4.

I am indebted for valuable suggestions to Professors O. H. Brownlee, Leonid Hurwicz, Ira O. Scott, Jr., Lloyd Ulman, and Mr. Bernard J. Marks.

² J. von Neumann and O. Morgenstern, *Theory of Games and Economic Behavior*, 2nd ed. (Princeton, 1947).

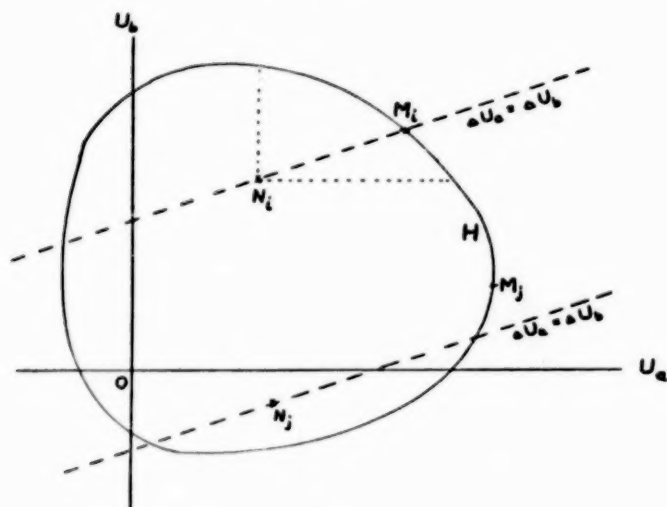


FIG. 1

Any bargain is adequately identified by the pair of total utilities anticipated by A and B respectively if this bargain should be implemented. It can be represented graphically by some point within the set H^3 in the $U_a U_b$ plane (Figure 1). The term, (pure) *strategy or threat* of A (B), indicates any one of a finite number of alternative unilateral plans of action available to A (B) in the event of a deadlock (failure to reach an agreement). Assume that, if A and B both know which strategy each would adopt, then they both know the level of utility which each would realize in the event of a deadlock.⁴ Each possible pair of deadlock utilities can be represented graphically by some point N_i , which must fall in H since any pair of strategies also constitutes a conceivable form of cooperation. If A and B should be committed in advance to a given pair of strategies determining a pair of deadlock utilities at N_i , the alternative bargains about which they will negotiate will be those represented by points on the boundary of H northeast of N_i . Call these the set of *admissible* bargains. The utility to A (B) of any such bargain less his deadlock utility defines the utility gain, ΔU , promised to A (B) by that bargain.

In the subsequent section we defend the thesis that, if A and B are considering a given pair of prospective strategies determining a given pair of deadlock

³ Which is convex, closed, and bounded. This paragraph borrows from J. F. Nash, Jr., "The Bargaining Problem," *Econometrica*, April, 1950, Vol. 18, pp. 155-162, and "Two-Person Cooperative Games," *ibid.*, January, 1953, Vol. 21, pp. 128-140.

⁴ The significant property of any strategy is its influence on the size of A 's or B 's deadlock utility. Therefore, two plans, A_1 and A_2 , of A are different strategies if there is at least one combination of plan A_1 with some plan of B which promises a different pair of utilities to A and B than does the combination of plan A_2 and the same plan of B . Similar remarks apply to alternative plans, B_1 and B_2 , of B .

utilities (N_i), they will tend to agree upon a bargain (in the neighborhood of M_i) which will, so they believe, yield them approximately equal utility gains over and above their respective deadlock utilities. The expectation, however, of a different pair of strategies determining a pair of deadlock utilities at N_j would always⁵ tend to produce a different bargain, unless N_j should be located on the line $\Delta U_a = \Delta U_b$ which passes through N_i .

We shall not consider the problem of determining which bargain would be concluded if A and B should be uncertain which strategy each would pursue in the event of a deadlock. In the remainder of this paper, therefore, A and B are pledged to a given pair of strategies.

II. A SIMPLE MODEL

We now state our hypothesis in the context of a very simple bargaining situation. The special assumptions defining this situation are as follows:

For convenience of exposition imagine that the admissible bargains determined by the given pair of strategies correspond to the alternative ways of dividing between A and B a joint profit of \$1,000 over and above the profit levels which A and B respectively anticipate in the event of a deadlock. We assume provisionally that the larger the money gain of A (B), the larger would be his utility gain.⁶ This joint gain of \$1,000 is available to A and B on condition that they are able to agree upon its division by a given deadline date, and is wholly forfeited in the event of a deadlock.

Ample time is allowed for negotiation prior to the deadline date. An agreement is cancellable at any time prior to the deadline date, but is binding on both parties if it still represents their wishes at that date. If a bargain should take effect, the maximum utility derivable from any money gain can and must be extracted during the year following the deadline, so that the utility level associated with any given bargain (as with the failure to make a bargain) is a utility level also associated with this particular year. If no agreement should be reached by the deadline, an identical opportunity for sharing a money gain of \$1,000 may recur at the beginning of the second and subsequent years. Call each such opportunity a *trial*. A and B always anticipate with certainty the same number of trials, and believe with certainty that their respective anticipations are identical. Assume provisionally the expectation of only one trial.

If A and B should offer each other a specified pair of money gains, we assume that they compare their prospective utility gains (ΔU_a and ΔU_b) and that they each subscribe to one of the following estimates: ΔU_a is equal to, or is slightly, or substantially, or very much greater than ΔU_b , or vice versa. A 's estimate is assumed to *invariably agree with B's*.⁷ Each party believes with certainty that his own estimate is correct, that the two estimates are in agreement, that these

⁵ Subject to the qualification in footnote 16.

⁶ This is equivalent to assuming that the given pair of strategies is such that the boundary of H in the quadrant northeast of N_i has a negative slope at every point.

⁷ This is equivalent to the assumption that A and B are agreed upon the number of units of B 's utility that is believed to be equal to a unit of A 's utility. This proportion determines the slope of any line $\Delta U_a = \Delta U_b$ in Fig. 1.

same two beliefs are held by his opponent as well by himself, and that it is impossible to change the estimate of the other party.

Finally, we assume that there are a large number of *A*'s and an equal number of *B*'s paired off randomly; that the utility functions and economic circumstances of the *A*'s (*B*'s) vary, but that the utility increment anticipated by each *A* from \$400 gain is believed by this *A* and the corresponding *B* to be equal to the utility increment anticipated by that *B* from a \$600 gain. We mean that the utility of the *certain* prospect of a \$400 gain by *A* is believed to be equal to the utility of the *certain* prospect of a \$600 gain by *B*. Call \$400_a-\$600_b the *equal-gain* bargain.

Given these assumptions,⁸ our hypothesis is that the bargains successfully consummated by the many pairs of negotiators would be very heavily concentrated in the neighborhood of the equal-gain bargain.

Imagine *B* to make an offer of the bargain, \$1_a-\$998_b, and *A* to counter with an offer of the adjacent⁹ bargain, \$2_a-\$998_b.

If *A* were to insist on his terms *right up to the deadline date*, he would be compelling *B* to choose between two alternatives: Either *B* could accept *A*'s offer of \$998, or he could reject it, in which case there would be no bargain at all. If *B* should reject *A*'s terms, he (*B*) would lose \$998, the difference between the money gain that he could have realized by accepting *A*'s offer¹⁰ and the zero money gain which he would in fact realize.

Similarly, if *B* were to insist on his terms right up to the deadline date, he would be confronting *A* with two alternatives: Either *A* could accept *B*'s offer of \$1, or he could reject it and receive zero dollars, in which case *A*'s money loss would be \$1.

But, by assumption, *A* and *B* are both sure that *B*'s foregoing a \$998 gain would mean a utility loss greater than *A* would suffer by foregoing a \$1 gain. Therefore, *A* could say to *B*:

- (1) "If neither of us should give way, this would hurt you more than me."
- (2) "Consequently, it is up to you, not me, to make the concession required to reconcile our demands."

These two propositions illustrate our basic assumptions concerning the psychology of bargaining.

The first proposition illustrates the concept of relative bargaining power, this particular situation being one where *A*'s bargaining power exceeds *B*'s. Note

⁸This list of assumptions is incomplete. It will be convenient to introduce some fundamental behavioral assumptions during the course of the subsequent argument. Many of the assumptions already introduced are drastic idealizations. Those to be introduced later, however, are intended to be realistic. They are believed to represent realistic reactions to the hypothetical environment.

⁹Ignoring fractions of a dollar.

¹⁰Note that if, as assumed above, *A*'s offer of \$998 to *B* should continue to stand right up to the deadline date, *B* would be able to signify his acceptance of the offer at a time so close to the deadline that *A* would almost certainly not be left with time enough to cancel the agreement prior to the deadline. It follows that, if *B* should fail to accept *A*'s offer by the deadline date, *B* would be passing up not just the *possibility* of a \$998 gain but the *virtually certain* availability of this gain.

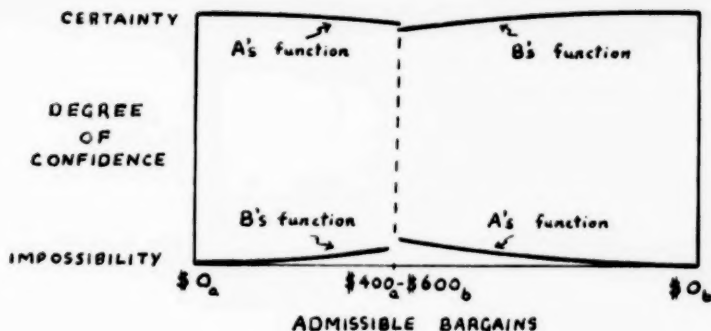


FIG. 2

that there is no way of comparing bargaining strengths except in relation to a specified pair of offers. If, for example, *A* had made the offer, $\$999_a-\1_b , and *B* had offered $\$998_a-\2_b , *B*'s bargaining power would exceed *A*'s.

Turning to proposition (2), it obviously is not a *logical* consequence or implication of the first, but we claim that it is a *behavioral* consequence; that the party which expects to suffer the greater disutility from a deadlock will in fact usually be the one which feels obliged to make concessions. *The estimated relative sizes of the utility losses, that are anticipated in the event of a deadlock, will be the major determinants of the degree of confidence with which each party will expect concessions from the other.* Thus, if it were believed that *B*'s prospective loss would be very much larger than *A*'s, *A* would attach a very high probability to the idea that *B* will accept *A*'s terms, and *B*, on the other hand, would attach a very small probability to the idea that *A* will accept *B*'s offer.

This conclusion is represented graphically in Figure 2. Points on the base line correspond to all the admissible bargains. Vertically we indicate the degree of confidence with which one party expects the other to accept any given bargain. The point on *A*'s function above the bargain, $\$2_a-\998_b , indicates that *A* is almost certain that *B* would accept these terms. The point on *B*'s function above the bargain, $\$1_a-\999_b , indicates that *B* is almost certain that *A* would not accept these terms.¹¹

¹¹ The reader may wonder why the degree of confidence with which *A* (*B*) expects *B* (*A*) to accept a given bargain depends on the relative sizes of the prospective utility gains of *A* and *B* associated respectively with the given bargain and an *adjacent* bargain. An example provides the simplest explanation. Suppose *A* wishes to estimate the probability of *B*'s accepting the bargain, $\$200_a-\800_b , if *A* should offer it. Assume an offer by *A* of $\$200_a-\800_b and by *B* of $\$198_a-\802_b . In the event of a deadlock, *A*'s loss would be $\$198$ and *B*'s $\$800$. Imagine that *B*'s utility loss is believed to be much greater than *A*'s and that *A* is confident that *B* would substitute the offer $\$199_a-\801_b , thus creating a new pair of potential losses, $\$199$ for *A* and $\$800$ for *B*. Now *A*'s view of the probability of *B*'s making a further concession i.e., the probability of *B*'s accepting the bargain, $\$200_a-\800_b , depends on the consensus of *A* and *B* concerning the size of the difference between the second pair of utility losses, not the first pair. In short, *A*'s estimate of the probability *B*'s accepting any given bargain is the same as *A*'s estimate of the probability of *B*'s making the last small concession which

Imagine now that B had offered, not the bargain, $\$1_a-\999_b , but $\$2_a-\998_b , and that A had demanded $\$3_a-\997_b . Comparing prospective losses ($\$2$ for A and $\$997$ for B) from a deadlock, imagine A and B still to believe that B 's utility loss would be very much greater than A 's. A 's function, therefore, would continue to indicate almost as much (possibly, just as much) confidence that B would accept A 's terms. B 's function would continue to indicate almost as much (possibly, just as much) pessimism concerning the acceptability to A of B 's offer. Repeat this procedure, dollar by dollar, so as to complete both functions.¹²

We now come to a vital feature of our hypothesis. It is suggested that it is plausible to assume that each of the two functions would have a shape approximating that depicted in Figure 2. Whenever B 's prospective loss from a deadlock is believed to exceed A 's, A (B) would be very confident (doubtful) indeed that his terms would be acceptable to B (A); whenever A 's prospective loss from a deadlock is believed to exceed B 's, B (A) would be very confident (doubtful) indeed that his terms would be acceptable to A (B); and both A and B would be very confident that the equal-gain bargain¹³ would be mutually acceptable. We assume that each negotiator correctly assesses the general character (as just described) of his opponent's function but does not know its *precise* shape. The most extreme form which each function might take would be where A (B) feels *certain* that B (A) would not accept any terms inferior to the equal-gain bargain, but would accept that bargain.

At any given date during the negotiations, A ¹⁴ thus associates with each bargain a particular profit increment and a particular probability of securing it (i.e., of B 's accepting it). These two magnitudes determine an expected or actuarial utility of each bargain to A . *One* moment before the deadline date, the bargain to which A currently assigns the highest expected utility represents the minimum terms acceptable to A .¹⁵

If the function of every A (Fig. 2) had the most extreme form mentioned above, then every A would assign the highest expected utility to the equal-gain bargain. We suggest that it is plausible to assume that (in the bargaining situation described by our assumptions) the shape of A 's function would, for enough A 's, approach this extreme form so closely that relatively few A 's would assign

would bring B to an acceptance of that bargain. Therefore, if the difference between the terms of adjacent bargains is small, A 's (B 's) estimate of the probability of B 's (A 's) accepting any given bargain which offers A a gain of x dollars out of a total of k dollars will approximately depend on the estimated size of the difference between the utility gain which A is expected to derive from a gain of x dollars and the utility gain which B is expected to derive from a gain of $k - x$ dollars.

¹² This wording is not intended to imply that this sequence of pairs of offers are considered in turn chronologically by A and B . On the contrary, the pairs of offers examined are alternatives *ab initio*, in accordance with the argument of footnote 11.

¹³ The term, equal-loss bargain, is really more suggestive. If A and B were each to reject an opportunity to implement the equal-gain bargain, $\$400_a-\600_b , their utility losses would, so they believe, be equal.

¹⁴ Similar remarks apply to B .

¹⁵ An offer to A significantly earlier of the bargain to which he currently assigns the highest expected utility might not be accepted by him, since it might cause him to revise his expectations more favorably.

the highest expected utility to a bargain substantially different from the equal-gain bargain. Only the abnormally bold would in the last resort demand more than \$400, because of the low probability of success. Only the very timid would demand significantly less than \$400, because of the minuteness of the increase in the probability of success expected to result from this concession.

A similar assumption about the B functions and a random pairing of the A 's and B 's would produce a heavy concentration of the successfully completed bargains in the neighborhood of the equal-gain bargain. Equivalently, we could predict with a high degree of confidence that a pair of negotiators selected at random from the many pairs would, if successful in reaching an agreement, agree upon a bargain not substantially different from the equal-gain bargain.¹⁶

We have said nothing as yet about the tactics of bargaining. The assumptions of our model permit only a small amount of uncertainty, but it is sufficient to provide some opportunity for tactical gain. For example, at any time substantially earlier than the deadline date, A might demand a bargain more favorable to himself than the one to which he currently assigns the highest expected utility. For B knows only the approximate shape of A 's function (Fig. 2), and consequently knows only approximately A 's minimum terms (the bargain to which A assigns the highest expected utility). Therefore, A may initially make extravagant demands in the hope of slightly depressing B 's function, and if A should think that this tactic has been successful, his own function would be slightly raised and he would now assign the highest expected utility to a bargain a little more favorable to himself than was previously the case.¹⁷

We now drop the single trial assumption and substitute the expectation of more than one trial. It is claimed that an increase in the number of trials anticipated and actually occurring, will tend to increase the concentration of solutions in the neighborhood of the equal-gain bargain.

In the case where only one trial is anticipated, it is easy to imagine a negotiator occasionally settling for terms significantly less favorable than the equal-gain bargain in order to diminish the likelihood of a deadlock. When, however, a number of trials are anticipated, this same negotiator will be much more inclined to take a firm stand on, or nearer the equal-gain bargain. He may feel that a deadlock in the first trial, or even first few trials, will more than pay off in better terms secured in the remaining trials. Obviously, the larger the number of trials anticipated, the greater will be the expected gain from, and incentive to, initial firmness.

Finally in place of the assumption that failure to reach an agreement by the

¹⁶ This conclusion is subject to one qualification. The point N might be one (e.g., N_1 in Fig. 1) such that the line $\Delta U_a = \Delta U_b$ through N_1 cuts the eastern boundary of H substantially below M_1 , where M_1 is from A 's viewpoint the most favorable bargain in the set H . In such a case A could "pull" B down the eastern boundary of H as far as M_1 but would not wish to pull him past M_1 to the equal gain bargain.

¹⁷ It seems plausible, however, to suppose that such revisions of expectations during the negotiations would usually be very minor so long as we retain the assumption that A and B agree, and believe they agree, upon the identity of the equal-gain bargain; i.e., surely only an ultra-cautious negotiator would be expected to settle for a bargain much inferior to what he is sure is believed to be the equal-gain (equal-loss) bargain.

deadline date completely wipes out the opportunity to conclude a bargain during the current year (trial), we may wish to substitute the assumption that a bargain may still be concluded after the initial deadline but that this delay involves a continuously increasing penalty for both parties. In terms of Figure 1 the increasing penalty may be envisaged as a gradual shifting toward the south-west of the north-east boundary of the set of available bargains H , so that the bargain M_t moves steadily down the line $\Delta U_a = \Delta U_b$ and reaches N_t one year after the initial deadline. At any date within the year the utility to A (B) represented by the current position of M_t indicates A 's (B 's) total prospective utility for the entire year i.e. it includes the deadlock utility realized to date plus the bargain utility which would be enjoyed during the remainder of the year if the current bargain M_t should be concluded.

We now argue that this change of assumptions does not alter the solution. Suppose A and B to be considering the consequences of a failure to reach an agreement by the initial deadline. There are two possibilities. One is that A and B would be deadlocked for the entire year and would realize the pair of utilities N_t . The other possibility is that they would at some particular date during the year agree upon a bargain which most probably would not differ substantially from the bargain M_t available at that date.

Either of these two *prospective* utility positions (N_t or an M_t available after the initial deadline) may be employed by A and B as the base in their calculations (*prior to the initial deadline*) of that initially available bargain which would yield them, so they believe, equal utility gains relative to the base chosen. But since both of these bases are located on the same line $\Delta U_a = \Delta U_b$, A and B will tend to agree upon the same bargain (the initial M_t) regardless of which base they utilize.

III. THE NASH-ZEUTHEN THEORY

In a recent article¹⁸ Professor Harsanyi has argued that the mathematically rigorous theory of Nash¹⁹ and the psychologically plausible theory of Zeuthen²⁰ yield the same solution. Professor Harsanyi writes: "The somewhat unexpected identity of the solutions yielded by Nash and by Zeuthen is a most encouraging sign because on the surface their approaches appear rather different."²¹ What is the relation of the Nash-Zeuthen theory to our own?²²

A fundamental task for any bargaining theory is the provision of some plausible guide which each negotiator may employ to assess the probability of his opponent's acceptance of the various bargains. Each negotiator is then able to

¹⁸ John C. Harsanyi, "Approaches to the Bargaining Problem Before and After the Theory of Games: A Critical Discussion of Zeuthen's, Hicks', and Nash's Theories," *Econometrica*, April, 1956, Vol. 24, pp. 144-157.

¹⁹ *Op. cit.*

²⁰ F. Zeuthen, *Problems of Monopoly and Economic Warfare*, London, 1930, Chap. IV.

²¹ *Op. cit.*, p. 151.

²² Since Professor Harsanyi's description of the Nash-Zeuthen theory is so lucid and concise, its exposition here seems inappropriate. Our remarks, therefore, will simply comment on the two systems.

rank these bargains and can stake his chances on the one which he ranks highest. An elegant feature of the Nash-Zeuthen hypothesis is that it succeeds in deducing such a set of probabilities of acceptance from a very small number of assumptions and without resorting to interpersonal comparisons of prospective losses from a deadlock. This, however, would be a questionable virtue if the Nash-Zeuthen behavioral assumptions should be deemed less realistic than ours. If our basic bargaining psychology is essentially sound, the Nash-Zeuthen theory cannot be accepted.

To demonstrate this consider the illustration of his theory provided by Nash at the end of his first paper.²³ Two bargainers with perfect knowledge and von Neumann-Morgenstern type utility functions are confronted with the problem of negotiating an agreed division of a joint money gain of a given amount. Failure to reach an agreement will cause them to forfeit this gain. The Nash solution to this problem has the two parties each receiving an equal monetary share provided that "the utility of an amount of money is approximately a linear function of the amount in the range of amounts concerned in the situation."

Imagine then that a millionaire and a pauper are negotiating concerning the division of a joint money gain of \$1000. The pauper proposes the Nash solution, offering the millionaire \$500. The millionaire demands \$501 for himself and offers the pauper \$499. If they should both prove obstinate, the pauper would lose \$499 and the millionaire \$500. Now it is easy to imagine a situation where the two parties implicitly agree that the millionaire's losing \$500 is a trifling matter in terms of disutility compared to the pauper's losing \$499. The millionaire is able to inflict much more damage on the pauper than the pauper can inflict on the millionaire. Our concept of relative bargaining power implies that the pauper would probably give way, and does not, except in very special cases, yield the same solution as the Nash-Zeuthen theory.

²³ *Op. cit.*, pp. 161-2.

THE INCIDENCE OF COLLECTIVE BARGAINING ONCE MORE*

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I

A few years ago I tried to work out some ideas on "The Incidence of Collective Bargaining" before the American Economic Association.¹ The results satisfied neither my critics nor myself, and I confess inconsistencies between my earlier paper and my present opinion.

Some of the peculiar difficulties of the subject may be clarified by reference to the theory of tax incidence, which is our model here. There is a perennial dispute in tax incidence theory as to whether one should or should not take account of the way the tax receipts are spent. There is another perennial dispute as to whether one should compare the post-tax situation with the situation which would have existed without any tax at all, or with the situation which would have existed had some other tax, such as a proportional income tax, been used to raise the same revenue.

Analogous methodological problems give us pause in discussing the incidence of collective bargaining. Should we confine ourselves to the incidence of collective bargaining narrowly construed? Or should we take into account the incidence of the political and other activities,² including pressure on the monetary authorities, which unions may undertake in aid of their bargaining positions? I take the first and more restrictive position, which seems to be necessary for analytical precision. But on the other hand, the political activities of unions are interwoven so inextricably with their collective bargaining that to ignore the political side makes our results unverifiable.³

Let me digress to illustrate what is worrying me. It may be that one important effect of collective bargaining by some unions is to price labor out of certain occupations, and to lower wage rates indirectly wherever the displaced workers

* Delivered at the Memphis meeting of the Southern Economic Association, November 8, 1957.

¹ M. Bronfenbrenner, "The Incidence of Collective Bargaining," American Economic Association, *Proceedings* (1954), pp. 293-307.

² As an apt example of these "other" activities we may cite the recent role of the United Mine Workers in assisting in the organization of the American Coal Shipping Company to increase the world demand for American coal. (For this illustration I am indebted to my colleague, Charles P. Larrowe.)

³ Many writers accordingly discuss all trade union activities simultaneously, a practice defended most explicitly by Clark Kerr ("Labor's Income Share and the Labor Movement," in George W. Taylor and Frank C. Pierson [ed.], *New Concepts in Wage Determination*, "The term 'trade unionism,' instead of 'collective bargaining,' is used deliberately. Unions can and do affect actions of both employers and governments, and some of both kinds of action have potential or actual consequences for distributive shares. To explore the impact of unionism in only the economic sphere and not also in the political sphere is to tell but half the tale." [New York: McGraw-Hill, 1957], p. 266).

go. In such a case its incidence would be on workers down-graded or disemployed. But at the same time, suppose that the political activities of the same unions have been directed at increasing employment opportunities for their members, so that the net result of all union activities taken together has been to down-grade and disemploy nobody—rather the reverse. For analytical purposes I separate the two effects, and talk of the incidence of collective bargaining on down-graded and disemployed workers—who may be invisible! This unhappy situation becomes less happy when we realize that the collective bargaining policies of unions might be quite different were their political pressures less effective.

II

So much by way of overture or prelude; There seem to be six main theories of incidence in the economic literature, which can be sub-divided into two groups of three theories each. The first group of theories maintains that incidence exists. These theories maintain, that is to say, that union members make gains at some other group's expense as a result of collective bargaining. The second group of theories maintains that incidence does not exist. These theories maintain, that is to say, either that union members make no gains as a result of collective bargaining that they could not have made in the free market, or else that their gains come out of increased rates of economic activity and growth rather than out of the incomes of anyone else.

1. The "redistribution" theory. Collective bargaining redistributes income in favor of "laborers" and against "capitalists"—meaning receivers of rent and interest as well as receivers of profits in the strict sense. The incidence of collective bargaining is then on the capitalist class.

2. The "reallocation" theory, which is perhaps more entitled than any other to be called "orthodox." The labor share of privately produced national income stays more or less constant—a kind of statistical wages fund—while collective bargaining distributes further this more or less constant share. Members of the most aggressively organized trades and industries get more. Their increases spread "sympathetically" to a number of related trades, industries, and localities, by raising their supply schedules. At the same time, these increases reduce employment opportunities, displace workers into other labor markets, and hold wage rates down in these other markets. Sometimes the displacement is into unemployment or involuntary entrepreneurship of the peanut-stand variety, if organization is sufficiently broad. More frequently it is into some less aggressively organized type of labor. Part of the incidence of collective bargaining is on these displaced workers regardless of what finally happens to them.

The remainder of the incidence, by this same theory, is on that particular sub-class of consumers who consume most heavily those goods and services whose production costs and selling prices have been raised by wage increases, and who consume least heavily those goods and services whose production costs and selling prices have been pushed down by the displacement. These are however not "consumers" as a whole. Another sub-class of consumers may very well be

net gainers in consequence of collective bargaining, and we shall ignore in the discussion which follows any effects of relative price changes on "consumers" as such.

3. The "inflationary" theory. The main effect of collective bargaining is to force up money wages and prices. Its incidence is on fixed income receivers whose incomes lag behind the inflationary movement.

Passing to the theories which deny any incidence of collective bargaining, we have:

4. The "illusion" theory. Collective bargaining gives the members of established unions⁴ no more on the average than they could have expected through the competitive labor market as it operates on the wages of comparable unorganized workers.

5. The "productivity" theory. Collective bargaining increases the rate of economic growth, in the first place, by "shocking" employers into increasing their efficiency and introducing innovations of many kinds. At the same time it insures workers against wage cuts and unemployment when their productivity rises, and increases worker cooperation with technical progress. A differentially higher rate of growth results over-all. Out of the differential it has been possible to increase the pay of organized workers without injury to any other group.

6. The "consumption" theory. This is an extension of the redistribution theory which stresses longer-run effects. Collective bargaining redistributes income from the rich to the poor, which raises purchasing power, which in turn permits full consumption and full production, and leaves even capitalists no worse off in the long run than they would have been without it.

Speaking ideologically for a moment, the redistribution, productivity, and consumption theories are usually presented as pro-union in their implications. The reallocation, inflation, and illusion theories, differing widely among themselves, share a certain anti-union flavor, although many illusion theorists maintain pro-union policy positions on sociological or political grounds.

The six theories are overlapping rather than mutually exclusive, and it is common to find writers holding more than one. Pro-union writers often combine redistribution and consumption theories, and often add productivity theories as well. Anti-union writers often combine reallocation and inflation theories, and speak of "unemployment and inflation" as consequences of union power.

III

The literature on the incidence of collective bargaining is not one of which we can be proud as professional economists. Some writers present their views as matters of common notoriety, without rebutting or even mentioning the views of others. There is a certain amount of question-begging, and otherwise playing fast and loose with the evidence. (For example, when union wages rise faster

⁴ An upward filip to wage rates as the immediate consequence of organization is recognized quite generally, and may be attributed to the overcoming of labor monopsony. By "established" unions we mean unions for whose members this short-run filip has already come and gone.

than non-union ones within some industry, this is taken to show that collective bargaining has raised them. But when the opposite is the case, this allegedly proves that collective bargaining raises non-union wages as well.) I have also seen the fact of economic growth—the fact that all major groups have enjoyed rising real incomes since 1900—used as evidence that collective bargaining has had no incidence.

Advocates of redistribution theories, and of the consumption theories often built upon them, assume that the share of manual or production workers in private national income has risen as a consequence of collective bargaining, or if they can isolate no rise, they assume that it would have fallen without collective bargaining because the over-all capital-labor ratio has risen. Neither of these propositions is tenable without supporting evidence, and the little evidence I have seen points in opposite directions.⁵ Nor have proponents of productivity theories, to the best of my knowledge, investigated by crafts or industries the empirical relations between union strength and the growth of productivity. We still do not know the comparative importance of union encouragement to efficiency in the use of machines and raw-material and union encouragement to "feather-bedding" in the use of direct man-power.⁶

A final criticism of the literature is a certain tendency to generalize, to erect universal theories of incidence, based on one or a few specific episodes in recent economic history. The reallocation theorists of the 1920's and the 1930's in the United States and Great Britain seem to have been thinking about 1920-22 or 1929-33, when union wage rates were maintained while other wage rates fell, and when employment shifted (for whatever reason) largely away from sectors of union strength to sectors of union weakness. The American under-employment inflation of 1936-37, followed by the downturn of 1937-38, may have been uniquely important in providing supporting evidence for writers combining misallocation with inflation theories.⁷ The even more unusual circumstances of 1945-48 in the United States, when an inflation burst forth into the daylight after four years of wartime suppression, saw the emergence and development of the illusion theory. Currently (1955-57) it is the inflation theory which is fashionable, mainly because of the effects of wage increases on industrial costs—despite the occasional use of collective bargaining as a screen for increased

⁵ For a useful summary, see Kerr, *op. cit.*, pp. 279-294. For the United States in particular, we quote from p. 281: "Over the past century [including both periods of union strength and weakness] labor's share has risen primarily as employed persons have become a more important component in our population. In other words, employees are not comparatively better off as individuals; there are, however, many more of them."

⁶ Here again, the relevant literature has been reviewed by Kerr, "Productivity and Labour Relations," *Reprint 96* of the University of California Institute of Industrial Relations (1957). The results are most inconclusive.

⁷ The standard presentations of this viewpoint are probably H. C. Simons, *Economic Policy for a Free Society* (Chicago: University of Chicago Press, 1948), ch. 6. (originally published 1944); C. E. Lindblom, *Unions and Capitalism* (New Haven: Yale University Press, 1949), ch. 11; and Fritz Machlup, *Political Economy of Monopoly* (Baltimore: Johns Hopkins University Press, 1952), ch. 9-10.

profit margins and the matching of union wage increases in many weakly organized trades (such as teaching) where shortages have been recognized.

IV

I take an eclectic position, trying harder to escape logical than temporal inconsistency. My view is that different theories (or combinations of theories) apply in good times than in bad, and different theories under easy money than under tight. We must, moreover, deal with continua, not dichotomies, especially since some crafts, industries, and areas are generally enjoying prosperity at the same time that others are suffering depression and still others are in an intermediate state.

When a craft, industry, or locality is enjoying prosperity, with money easy but prices temporarily stable, the major effect of collective bargaining is to get inflation under way from the cost side. Wage increases over and above productivity increases, and above wage increases obtainable under competition, can be secured and passed on (or magnified) in price increases. The money supply expands, or its velocity of circulation is allowed to increase without offset, so that the increased wages and prices cause no credit stringency. (The increased wages and prices are not only *financed*, but *underwritten* or *validated*, by easy money.)⁸ When times are good but money is tight, any appreciable rise in prices in a strongly organized sector of the economy is accompanied or followed by a stringency of credit, with unfavorable effects on wages, prices, output, and employment generally. This is a reallocation effect, from whose consequences the original price- and wage-raising sectors are often insulated by their particular situations of prosperity. Thus a wage and price rise in autos or steel may lead through tight money to wage cuts or unemployment in textiles or construction—but *not* in autos and steel, the original "culprits."

When a craft, industry, or locality is suffering hard times, the major incidence of collective bargaining seems to be the reallocation one, which might alternatively be called anti-deflationary. Money wages are held at the levels of the last prosperity; or rather, they are nearly as likely to rise as to fall. Employment falls off in terms of hours, and usually also in terms of men. The unemployed go elsewhere; new entrants enter elsewhere; wages are often forced down elsewhere. The resulting displacement may be upward, as when coal miners from Kentucky become auto workers in Detroit. More commonly, if

⁸ A clear distinction should be, but usually is not, made between that degree of monetary ease which finances a wage increase in the first instance, and that further degree of monetary ease which underwrites or validates it by providing higher money purchasing power at higher money prices. In an earlier essay, "A Contribution to the Aggregative Theory of Wages," *Journal of Political Economy* (1956), pp. 459-469, assuming the first and lesser degree of monetary ease, I arrived at essentially classical inverse relations between wage rates and employment. In the present passage, assuming the second and greater degree of monetary ease, I suppose the Keynesian independence between wage rates and aggregate employment, my concern being concentrated on inflationary consequences. It would be easy to go to super-Keynesian direct relations between wage rates and employment under this degree of monetary ease, if the initial position were one of less than full employment.

hard times are general, displacement will be downward, involving more unemployment of old skills than development of new ones. Accompanying the displacement and reallocation are assorted reactions favorable and unfavorable to particular classes of consumers, as relative prices follow the relative wage movements.

Monetary policy makes little difference here; easy money in depressions has been compared often and aptly to "pushing on a string." Fiscal policy, especially government spending, is more significant. The special phenomenon of unemployment (or under-employment) inflation often results when, as under the New Deal in 1936-37, collective bargaining diverts expansionary fiscal policy to wage rates rather than employment.

With an important limitation, in conclusion, one may concur with Sumner Slichter⁹ as to the inflationary bias in our collective bargaining arrangements, if not in his recommendation to accept the resulting inflation gracefully. The limitation is to good times with temporary price stability. If times are bad or money is tight, collective bargaining reallocates labor and changes relative prices rather than inflating the general price level—except insofar as it generates unemployment inflation from expansionary fiscal policy during depressions. And at other extreme, when inflation gets under way for other reasons than collective bargaining, as it did in the American 1945-48 and 1950-51, bargained labor markets often escalate and inflate no faster than competitive ones, if the excess demand for labor at prevailing wage rates is at all general.¹⁰

In both good and bad times, but primarily the latter, collective bargaining probably also induces a slight redistribution of income in favor of wages and against profits. The evidence which has convinced me of this underlying movement was developed by H. M. Levinson,¹¹ but I shall not reproduce his statistical tabulations here. For those unfamiliar with his work, let me say only that he has broken down the private sector of the American economy into one group of industries where unionism or the threat of unionism are important and another group where neither unionism nor its threat is of much immediate significance. (The first or union group includes manufacturing, mining, construction, transportation, and public utilities. The second or non-union group includes agriculture, trade, finance, and services.) Levinson's figures indicate that in the union group the generation since 1929 has seen a shift from property income (rent and

⁹ Sumner H. Slichter, "Do the Wage-Fixing Arrangements in the American Labor Market Have an Inflationary Bias?" American Economic Association, *Proceedings* (1954), pp. 342-346.

¹⁰ Compare particularly Albert Rees, "The Economic Impact of Collective Bargaining in the Steel and Coal Industries During the Postwar Period," Industrial Relations Research Association, *Proceedings* (1950), pp. 203-210.

¹¹ For the period 1929-1947, see H. M. Levinson, *Unionism, Wage Trends, and Income Distribution, 1914-1947* (Ann Arbor: University of Michigan Press, 1951), esp. Table 25, p. 106. The results are extended through 1952 in Levinson, "Collective Bargaining and Income Distribution," American Economic Association, *Proceedings* (1954), pp. 308-316, esp. Table 1, p. 309. For further extension (through 1954) of some of Levinson's results see Kerr, "Labor's Income Share," *op. cit.*, esp. Table 2, p. 285.

interest) to *wages*, whereas in the non-union group the shift has been from property income to *profits*, including both dividends and entrepreneurial income. I am impressed in each case by the *intra-industry* shifts only, computed after changes in the relative importance of different industries have been eliminated statistically.¹² The differences between the union and non-union groups are slight, and may not be statistically significant; they may also be sensitive to the particular choices of initial and terminal dates. But with these hesitations and reservations, Levinson's hesitant and reserved conclusion seems acceptable, that a small amount of redistribution results from the collective bargaining process. (There is also supporting evidence from Great Britain and Western Europe.¹³) It is, however, probably unwise to go further and suggest any kind of consumption theory of incidence, or rather of non-incidence, on the basis of differences so small as those Levinson has isolated.

In summary, then, my eclectic theory of the incidence of collective bargaining is an inflationary theory for an easy-money prosperity, or for a depression with a carelessly expansionist fiscal policy, an illusion theory once inflation is under way, and a reallocation theory for most other circumstances. A redistributionist strain underlies the entire process, but on a scale too small to produce significant consumption effects or otherwise to influence the course of prosperity or depression. The illusion theory also warns us usefully at all times against exaggerating the quantitative significance of the other patterns of incidence.¹⁴ The evidence for and against the productivity theory still awaits detailed examination.

V

Thus far nothing has been said of Lloyd Reynolds' *Evolution of Wage Structure*,¹⁵ perhaps the decade's most significant contribution to the literature of the incidence of collective bargaining. This omission has been neither accidental nor disrespectful. Reynolds' conclusions do not fit neatly into our clas-

¹² Kerr, in criticizing Levinson's study (and other studies with similar results) does not distinguish between *intra-industry* and *total* share shifts (*ibid.*, p. 284 f.). The force of his criticism, and of other criticisms along the same line, is thereby reduced substantially.

¹³ E. H. Phelps Brown and P. E. Hart, "The Share of Wages in National Income," *Economic Journal*, June 1952, esp. p. 276 f. and Phelps Brown, "The Long-Term Movement of Real Wages" in John T. Dunlop (ed.), *Theory of Wage Determination* (London: Macmillan, 1957), pp. 48-65. Phelps Brown stresses the conventional element in profit margins, which can be squeezed by the coincidence of a "hard" labor market (aggressive collective bargaining) and a "soft" product market (generally depressed conditions and/or aggressive price competition). For additional consideration of the American results, see William Fellner, *Competition Among the Few* (New York: Knopf, 1949), pp. 317-321; Sumner H. Slichter, *Economics of Collective Bargaining* (Berkeley: University of California Press, 1950); pp. 36-38; George J. Stigler, *Theory of Price* (Revised edition; New York: Macmillan, 1952), p. 259.

¹⁴ Thus for example Milton Friedman suggests 15-20 percent as the probable limit of upward wage distortion and 4 percent as the probable limit of downward wage distortion in connection with what we call the reallocation theory. Friedman, "Significance of Labor Unions for Economic Policy," in D. McC. Wright (ed.), *The Impact of the Union* (New York: Harcourt Brace, 1951), p. 216.

¹⁵ Lloyd G. Reynolds and Cynthia Taft, *The Evolution of Wage Structure* (New Haven:

sification of incidence theories. He and his collaborators have asked different questions, and turned the whole discussion in a different direction.

Given the imperfections of actual non-union labor markets, Reynolds inquires whether collective bargaining has shifted wage structures closer to or further from the "competitive norm" than they would otherwise have been. This competitive norm is thought of as devoid not only of collective bargaining but also of employer monopsony, worker ignorance and immobility, and also "non-competing groups" of privileged workers. Reynolds concludes in general, and with reservations, that the countervailing power of unions, exercised through collective bargaining, has brought actual wage structures closer to the competitive pattern than they previously were.

It does not seem impossible to translate Reynolds' conclusions into my own terms, although my translation lacks Reynolds' approval. We may say, for example, that the redistributive effect of collective bargaining represents mainly the countervailing of monopsonistic exploitation and a movement toward the competitive norm. We may also suggest that many who suffer from reallocation or inflation effects are white-collar folk who have traditionally formed a closed group with respect to recruitment from the ranks of manual workers, so that these effects, too, may be presented as competitive rather than the reverse.

Translation in the opposite direction is more difficult, but it serves to point up both my agreements and my disagreements with Reynolds' position. We may for translation purposes employ the hackneyed expression "labor aristocracy", subdividing it further into an old aristocracy and a new one, corresponding respectively to the elites of craft and of industrial unionism, and then proceed.

The old labor aristocracy consisted of members of the skilled trades, which old-style collective bargaining established as non-competing groups, often with monopoly power as against their small employers. On balance this kind of collective bargaining, with the incidence patterns we have ascribed to it, was probably an anti-competitive force despite its anti-monopsony aspects.

Reynolds bases his argument, however, mainly on the new labor aristocracy. This includes workers of all degrees of skill, but fortunate enough to work for large firms with substantial monopoly power and profits on the selling sides of their several markets, and therefore substantial ability to pay wage increases. Here collective bargaining as carried on mainly by industrial unions has had complex consequences. It has counteracted the monopsony power of

Yale University Press, 1955), esp. ch. 7, 13. (See also Reynolds, "The Impact of Collective Bargaining on the Wage Structure in the United States" in Dunlop, *op. cit.*, pp. 194-221 for a more condensed and less positive presentation of the same point of view.) Reynolds has also contributed to the discussion along less unconventional lines in his "General Level of Wages," in Taylor and Pierson (*op. cit.*). Here he traces in some detail the routes by which money wage increases may increase the labor share, in accordance with what we have called the redistribution theory of incidence (p. 253 f.). He also sets himself against the inflationary theory in a manner justified when monetary authorities do not allow tight money policy to be influenced by the results of collective bargaining (pp. 243 f., 249 f.).

these employers in hiring labor—clearly a competitive effect, which Reynolds stresses, and probably a redistributive one as regards incidence in the sense of the present discussion. But at the same time collective bargaining has raised these employers' costs, justified if not forced increases in their selling prices, and given their workers some share in what would otherwise have been their monopoly profits.

Should we call this a movement towards competition in general? From the viewpoint of the functional income distribution, it might appear so. Collective bargaining raises the labor share, and retards the shift to profits which Mrs. Robinson and others foresee as the ultimate end of a "world of monopolies".¹⁶ But I have my doubts, which spring from the inflation and reallocation theories of incidence. There seem to be elements of collusion or conspiracy against consumers of particular products and fixed-income groups in general, elements of labor support for monopolistic restrictions, elements of cultivation of monopoly profits as pools for wage increases to strategic groups of organized workers—"palace slaves," Lenin would have called them.¹⁷ These are reflected in the inflation and reallocation patterns of incidence of collective bargaining as has been said, and it is by no means certain that the injured parties are confined to the monopsonists or the non-competing groups of yesteryear. Do they not include family farmers and agricultural workers, unskilled employees in domestic and service trades, widows and orphans, pensioners and annuitants, racial and religious minorities? Inflation and reallocation, like the biblical rain, fall alike on the just and the unjust. Reynolds' theory has conjured up for the just an umbrella that the good Lord may thus far have neglected to provide.

¹⁶ Although stated most explicitly by Mrs. Robinson in *Economics of Imperfect Competition* (London: Macmillan, 1933), Book X, the notion of a trend toward monopoly correlated with a reduction of the distributive share of labor dates back to Marx and beyond. Among the spate of turn-of-the-century "Distribution" books it is found most clearly in John R. Commons, *Distribution of Wealth* (New York: Macmillan, 1893), pp. 101-107, 198-200, 229-237, 246-248, ch. 6. It underlies the aggregative wage theory of Michal Kalecki, "The Distribution of the National Income," reprinted in William Fellner and B. F. Haley, (ed.), *Readings in the Theory of Income Distribution* (Philadelphia and Toronto: Blakiston, 1946), selection II. For a critical survey of this literature, beginning with Mrs. Robinson, see Dean A. Worcester, Jr., "Monopoly and Income Distribution," *Western Economic Association, Proceedings* (1956), pp. 36-41.

¹⁷ The writer has expressed these doubts previously at somewhat greater length. See M. Bronfenbrenner, "Wages in Excess of Marginal Review Productivity," *Southern Economic Journal*, January 1950, pp. 307-309. Similar doubts were likewise not unknown to the founding fathers of labor economics. Compare e.g., the discussion of "Capital and labor hunting together, their prey being the people who needed cheap housing" in John R. Commons, *Economics of Collective Action* (New York: Macmillan, 1950), p. 31 ff. But as Kerr reminds us, collusive agreements between monopolistic employers and their favored employees antedated powerful trade unions, his wry comment ("Labor's Income Share," *op. cit.*, p. 272) being: "It is very difficult to keep the employers indefinitely from giving away their profits in part to their employees, in one way or another."

THE GROWTH OF UNION MEMBERSHIP IN THE SOUTH, 1939-1953*

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Organized labor has long regarded the South as a major source of potential members and in the past has made repeated attempts to extend unionization in this area of the country. The most recent and important attempt was undertaken after World War II. Although some workers were organized, the results fell far short of expectations. Upon the merger of the two rival labor federations in 1955, new plans were announced to bring unorganized southern workers within the union fold.¹

In view of the economic and political power wielded by organized labor, already more than 17 million strong, such pronouncements deserve serious consideration. Widespread union organization of southern industries would rival in importance the phenomenal growth in organization of the thirties and forties, a growth accompanied by major shifts in the industrial and geographical dispersion of union membership. Until that time, union strength had been restricted largely to non-manufacturing industries: rail transportation, building construction and coal mining, in sharp contrast to the labor movements of other countries, notably Great Britain.² As a consequence of the events of the thirties and forties, epitomized by the rise of the CIO and industrial unionism, manufacturing employment, hitherto largely non-union, became extensively organized. The geography of union membership also shifted, the sectional balance moving from the older union centers in the East—New York, New Jersey and Pennsylvania—to newer ones in the Midwest—Ohio, Indiana, Illinois, Michigan and Wisconsin. At the same time, the Midwest displaced the Pacific region as the most organized section of the nation. Geographically, the rise of the CIO was primarily an uprising of the midwestern trade unionism.

Yet, despite these basic shifts in the geographical and industrial centers of union strength, union membership in 1953, and at present, is still not "evenly" dispersed geographically or industrially. The South remains largely unorganized as do the growing service and government employments, but a new outburst of union expansion concentrated in the South could possibly bring about a broader distribution of labor strength.

*The data in this paper are taken from a study by the writer titled *Distribution of Union Membership among the States, 1939 and 1953* (New York: National Bureau of Economic Research, Occasional Paper 56, 1957). This study continues the pioneering work of Leo Wolman in the area of the statistics of union membership. The figures used in this paper refer essentially to dues-paying members, derived from unions' financial reports, convention credentials committee reports on voting representation and correspondence with unions.

¹ *New York Times*, December 9, 1955.

² Leo Wolman, *Ebb and Flow in Trade Unionism* (New York: National Bureau of Economic Research, 1936), pp. 84-85.

Since past achievements are often an earnest of future expectations, the record of union growth in the South during the years 1939-1953 may suggest the future course of southern unionism. An examination of that record ought to consider the position of southern labor in the national trade union movement, among other questions. Professor Frank de Vyver, an observer of southern labor developments for many years, has already noted that southern unions are catching up to national developments with respect to membership growth,³ but the question is, by how much? We can measure this movement not only with the actual records of membership, but also against *hypothetical standards* of union membership. The hypothetical data can, furthermore, be used to establish norms or potential goals of union membership in the South.

Necessarily, our account must consider those factors affecting union growth in the South, both adverse and favorable. One of special importance is the status of southern industrial development. Because the South is still an "underdeveloped" region, it is argued, the degree of union organization is low: "... the low rates of union incidence in Texas and the South have not, historically, been a result of mere location, but because the South and Texas have been pre-industrial."⁴ The implications of this hypothesis, in the view of this writer, are to discount the impact on union growth of many institutional and historical forces. Our estimates of actual and hypothetical membership challenge this implication, at least for the period 1939-1953.

Membership Growth by State and Union

As in the past, the growth of union membership in the South from 1939 to 1953 was part of a general rise in membership in the country as a whole (Table 1). "During the past 60 years," wrote Mr. H. M. Douty of the U.S. Bureau of Labor Statistics, "union organization and membership in the South have risen with every major upsurge of organized labor nationally."⁵ Similarly, it might be added, southern unionism also declined when unionism ebbed nationally.

For the entire period 1939-1953, union membership increased more rapidly in the South than in the balance of the country. Most of the growth probably occurred during World War II. In the postwar years, it is likely that southern membership grew less rapidly than membership in some other sections and states, because starting in 1947, southern states, as well as some other states, successively adopted legislation prohibiting any form of compulsory union membership—"right-to-work" laws—and these laws very likely reduce dues-paying membership, the definition of a union member employed in this paper. (Florida, it should be noted, enacted its "right-to-work" law in 1944.)

While membership increased in all states and the District of Columbia from

³ Frank T. de Vyver, "The Present Status of Labor Unions in the South, 1948," *Southern Economic Journal*, July 1949, p. 22.

⁴ Frederic Meyers, "The Growth of Collective Bargaining in Texas—A Newly Industrialized Area" (Mimeographed paper read at Annual Convention of the Industrial Relations Research Association, 1954), p. 5.

⁵ H. M. Douty, "Development of Trade Unionism in the South," *Monthly Labor Review*, Bureau of Labor Statistics, October 1946, p. 555.

TABLE 1
UNION MEMBERSHIP IN TWELVE SOUTHERN STATES, BY AFFILIATION, 1939 AND 1953
(thousands)

State	1939				1953				Per Cent Increase Total, 1939-53
	AFL	CIO	Unaf. filiated	Total	AFL	CIO	Unaf. filiated	Total	
Texas	76.0	8.5	26.0	110.5	223.9	104.5	46.4	374.8	239.2
Tennessee	41.9	19.6	9.5	71.0	113.5	47.5	26.3	187.3	163.8
Alabama	30.9	28.6	4.4	63.9	82.5	59.6	26.2	168.3	163.4
Virginia	40.7	17.8	9.9	68.4	94.2	33.1	28.8	156.1	128.2
Kentucky	36.2	41.2	7.3	84.7	103.6	27.5	24.0	155.1	83.1
Florida	39.5	1.1	3.0	43.6	117.4	12.5	6.0	135.9	211.7
Georgia	26.5	3.1	6.1	35.7	100.6	25.5	9.7	135.8	280.4
Louisiana	28.7	4.1	5.0	37.8	95.6	27.9	12.3	135.8	259.3
North Carolina	17.1	4.4	4.2	25.7	53.7	22.4	7.7	83.8	226.1
Arkansas	14.6	5.4	5.0	25.0	41.9	18.2	7.8	67.9	171.6
Mississippi	8.8	1	4.1	13.0	33.7	10.5	5.8	50.0	284.6
South Carolina	8.2	1.2	2.8	12.2	34.1	11.3	4.3	49.7	307.4
Total or Average	369.1	135.1	87.3	591.5	1,094.7	400.5	205.3	1,700.5	187.5
United States	3,851.2	1,796.9	869.6	6,517.7	9,972.0	4,560.4	1,684.9	16,217.3	148.8

1939 to 1953, the gains were not equally distributed. Generally, states largest in employment outside agriculture accumulated the greatest number of union members, as would be anticipated. Six states, New York, California, Pennsylvania, Michigan, Illinois and Ohio, accounted for more than half the 10 million member national increase between 1939 and 1953. Similarly, in the South, membership growth was concentrated in a few states. Of the twelve southern states, four, Texas, Tennessee, Alabama and Georgia, garnered nearly 600 thousand of the 1.1 million increase. So large was this four-state growth, in fact, that it about equaled the entire membership of all twelve southern states in 1939.

North Carolina, which ranked second in employment among southern states, lagged far behind this position in membership growth. Primarily, this was due to the failure of textile unionism to score any appreciable advance.

As a rule, the relative growth in employment and membership were also related, as the next table shows.

	Per Cent Increase, 1939 to 1953	
	Nonagricultural Employment	Union Membership
Florida	117.4	211.7
Texas	109.4	239.2
Georgia	76.9	280.4
California	115.0	228.4
Delaware	87.3	344.8
Michigan	82.1	294.6
Average, United States	63.4	148.8

Virginia and Kentucky were exceptions in the South, however. Both lagged in membership growth, but exceeded the average relative growth in employment. The membership lag in Virginia can be attributed to the limited gains made in the state's important chemical, textile and apparel manufacturing industries. In Kentucky, union growth fell behind because of a decline in coal mining employment coupled with the apparent resurgence of non-union mining operations.

If the experience of union growth in Texas can be generalized for the South, it would appear that much of the growth in southern membership occurred in new establishments, often branches of unionized firms located in other sections of the country.⁶ Such firms in textiles and apparel manufacturing were significant exceptions, however. Not only are many establishments in these industries new in the South but evidently they also belong to parent companies which are unionized in the North. It would therefore seem that "susceptibility" to unionism varies not only between industries, but within regions.

Most of the increase in southern membership was captured by AFL affiliates, and indeed, the AFL was in an even more dominating position in the South than in the rest of the country, as shown by the following tabulation.

	1939		1953	
	U.S.*	South (per cent)	U.S.*	South
AFL	58.8	62.4	61.1	64.4
CIO	28.0	22.8	28.7	23.6
Independent	13.2	14.8	10.2	12.0
Total	100.0	100.0	100.0	100.0

* Excludes twelve southern states.

In part, the smaller CIO membership in the South compared to its share in the rest of the country reflects the absence of large-scale employers in the South such as characterize the CIO-organized auto and steel industries in the North. To what extent the CIO figures in the South also reflect the status of industrial as contrasted to craft unionism in southern industries is uncertain, since the distinction between the craft and industrial form of organization has been blurred in so many AFL unions. That conflicting jurisdictional claims and the issue of craft versus industrial unionism will play a role in future attempts to organize southern workers is evident, however.⁷

Affiliates of the AFL exceeded the membership of the CIO or Independent unions in eleven of the twelve southern states in 1939 and all twelve by 1953. The dis-affiliation of the United Mine Workers from the CIO in 1942 accounts for the change in Kentucky.

Despite its rapid increase between 1939 and 1953, the southern proportion of total American membership increased less than 1.5 per cent and much of this was accounted for by Texas. In 1939 the South had 9.1 and in 1953, 10.5 per cent of the total in the United States. Measured in this way, southern trade unionism can be described as slowly catching up to national developments.

⁶ Frederic Meyers, *op. cit.*, pp. 6 and 7.

⁷ *New York Times*, January 28, 1957.

TABLE 2
GROWTH IN MEMBERSHIP, SELECTED UNIONS, 1939-1953
(thousands)

Union	Total	Texas	Tennessee	Alabama	Virginia	Kentucky	Florida	Georgia	Louisiana	North Carolina	Arkansas	Mississippi	South Carolina
Automobile Workers	40.7	19.8	5.9	1.4	1.9	4.0	..	3.4	.8	.8	2.6	..	.1
Carpenters	79.0	18.1	9.7	4.9	4.5	5.7	11.9	6.3	9.2	1.6	.6	4.3	2.2
Communication Workers	76.8	22.7	6.2	5.0	3.1	4.2	5.9	7.9	6.1	7.8	2.8	2.9	2.2
Electrical Workers	59.7	11.5	7.6	3.9	4.5	3.8	9.3	5.5	3.0	3.0	3.3	3.0	1.3
Machinists	66.3	21.4	5.4	3.1	2.6	5.0	7.6	11.1	3.3	1.0	4.4	.7	.7
Maintenance of Way	22.3	5.1	1.9	1.7	2.4	1.7	1.1	1.6	1.9	1.1	1.8	1.5	.5
Plumbers	34.3	12.8	3.2	2.1	1.4	2.1	3.2	1.7	3.8	1.1	1.4	1.0	.5
Railway Clerks	40.2	7.7	4.4	1.5	5.4	2.5	3.7	5.5	2.0	4.5	.1	1.0	1.9
Steelworkers	69.9	14.4	9.2	29.4	2.9	5.5	1.1	2.5	.5	.5	3.8	..	.1
Teamsters	15.1	3.1	1.8	3.3	..	1.8	.9	2.5	.7	.6	.3	.8	..
Increase, above unions	504.3	136.6	55.3	56.3	28.0	36.3	44.7	48.0	31.3	22.0	21.1	15.2	9.5
Total increase	1,109.0	264.3	116.3	104.4	87.7	70.4	192.3	100.1	198.0	58.1	42.9	37.0	37.5
Per cent above unions of total increase	45.5	51.7	47.5	53.9	31.9	51.6	48.4	48.0	31.9	37.9	49.2	41.1	25.3

Little more than half the national increase in union membership from 1939 to 1953 was claimed by 9 of the approximately 200 national and international unions in the United States. These nine organizations were the Automobile Workers, Steelworkers, Teamsters, Machinists, Carpenters, Electrical Workers (AFL), Hod Carriers, Hotel, Restaurant and Bartender Employees, and the Ladies Garment Workers. The concentration of growth in southern membership was less pronounced and a number of unions that registered large gains nationally were not as successful in the South (Table 2).

To a degree, this may be accounted for by the localization of industry and the history of individual unions. For example, in Michigan the largest center of automobile manufacturing, the rise of the Automobile Workers accounted for almost 60 per cent of the total increase in the state. Similarly, in the South, unions in industries localized in one or two states were not included in Table 2, although they rolled-up larger gains than a number of those reported. Examples are the Oil Workers in Texas, the Tobacco Workers in North Carolina and Virginia, the Distillery Workers in Kentucky, the Gas, Coke and Chemical Workers and the Rubber Workers in Tennessee.

Table 2 also indicates that some industries undergoing rapid unionization nationally were also penetrated in the South. This was notably true in metals manufacturing, telephone communication, rail transportation and building construction.

Significant exceptions were road transportation, textiles manufacturing and

TABLE 3
MEMBERSHIP OF UNIONS IN APPAREL AND TEXTILE MANUFACTURING,
SELECTING STATES, 1939 AND 1953
(thousands)

Union	Texas		Virginia		Georgia		North Carolina		South Carolina	
	1939	1953	1939	1953	1939	1953	1939	1953	1939	1953
Clothing Workers	.5	.7	.9	2.3	.1	2.4	.3	.3	—	.7
Garment Workers, Ladies	1.3	1.3	—	3.0	.3	.5	—	—	—	.5
Hosiery Workers	*	—	*	.3	*	—	*	.8	*	.5
Textile Workers (AFL)	*	—	*	1.4	*	.9	*	5.6	*	2.5
Textile Workers (CIO)	—	1.5	1.1	8.2	1.3	3.4	3.4	7.3	1.2	6.3

* In 1939, a part of the Textile Workers Organizing Committee (CIO).

apparel manufacturing. The principal union organizing road transportation, the Teamsters, ranked third in growth nationally, gaining 700 thousand members, yet of that number only 15 thousand were located in the South. Similarly the unions in textiles and apparel also made large nationwide gains, but failed to acquire an appreciable membership in the South (Table 3).

Extent of Organization

Another measure of union organizing success, one that permits comparisons of union strength between states of different size and location, is the percentage of nonagricultural employees unionized. During the period 1939-1953, both union membership and nonagricultural employment in the United States increased, but membership rose so much more rapidly, that the percentage of wage and salaried employees organized was lifted from 21.5 per cent in 1939 to 32.6 per cent in 1953. Union strength, measured in this way, also grew in all states, including the South (Table 4). Southern states lagged behind the average increase for the country, however. On this basis, the South fell behind rather than caught-up with national developments. If the rate of increase in the percentage of employees unionized is considered, on the other hand, the South was indeed catching-up with national developments. Using Pearson's coefficient of variation, relative dispersion about the mean for the country declined between 1939 and 1953, although the range between the most unionized and least unionized states widened.⁸ In both years, the least organized state in the Union was in the South. In 1939 it was South Carolina and in 1953, its neighbor, North Carolina.

⁸ Measured by Pearson's coefficient of relative dispersion, variation about the mean declined from 37.8 per cent in 1939 to 30.8 per cent in 1953. The range in extent of nonagricultural wage and salaried employment organized by state extended from 41.7 per cent in West Virginia to 4.0 per cent in South Carolina in 1939, and 53.3 per cent in Washington to 8.3 per cent in North Carolina in 1953.

TABLE 4
EXTENT OF UNION ORGANIZATION OF NONAGRICULTURAL
EMPLOYMENT IN TWELVE SOUTHERN STATES,
1939 AND 1953
(Per Cent)

State	1939	1953	Increase in Per Cent Organized, 1939-1953
Kentucky	22.5	25.0	2.5
Alabama	16.1	24.9	8.8
Tennessee	15.3	22.6	7.3
Arkansas	12.7	21.5	8.8
Louisiana	9.6	19.5	9.9
Virginia	12.8	17.4	4.6
Texas	10.3	16.7	6.4
Florida	11.3	16.2	4.9
Georgia	7.0	15.0	8.0
Mississippi	6.5	14.7	8.2
South Carolina	4.0	9.3	5.3
North Carolina	4.2	8.3	4.1
Average, Twelve States	10.9	17.1	6.2
Average, United States	21.5	32.6	11.1

Hypothetical Standards of Union Growth

The actual record of union growth in the South has shown the region moved with the country as a whole in the years 1939-1953, and even perceptibly increased its share of total membership in the nation in that period. The same conclusion is indicated by using our hypothetical figures of state membership (Table 5).⁹ As the table reveals, actual membership constituted approximately 55 per cent of the hypothetical in 1939 and 58 per cent in 1953.

Nine states closed part of the gap between actual and hypothetical membership, but Tennessee, Kentucky, and Virginia increased the margin (Table 5). The most notable advances were made by Georgia, Louisiana, Arkansas, and Mississippi.

Thus far, most of the available evidence has demonstrated a synchronous

⁹ The hypothetical figures of union membership were computed as follows:

Let Y = Actual membership, given state

Y_k = Hypothetical membership, given state

\bar{a} = Percentage of employment organized nationally, by industry

X = State employment

Then

$$Y_k = a_1X_1 + a_2X_2 + \dots + a_nX_n$$

$$Y \approx Y_k$$

But, for all states and the District of Columbia,

$$\Sigma Y = \Sigma Y_k.$$

TABLE 5
ACTUAL AND HYPOTHETICAL UNION MEMBERSHIP IN TWELVE
SOUTHERN STATES, 1939 AND 1953
(thousands)

State	1939				1953			
	Actual Total	Hypo- thetical Total	Differ- ence	Per Cent, Actual of Hypo- thetical	Actual Total	Hypo- thetical Total	Difference	Per Cent, Actual of Hypo- thetical
Texas	110.5	238.2	127.7	46.4	374.8	701.6	326.8	53.4
Tennessee	71.0	87.5	16.5	81.1	187.3	256.2	68.9	73.1
Alabama	63.9	83.0	19.1	77.0	168.3	204.6	36.3	82.3
Virginia	68.4	112.3	43.9	60.9	156.1	259.4	103.3	60.2
Kentucky	84.7	101.8	17.1	83.2	155.1	215.7	60.6	71.9
Florida	43.6	75.5	31.9	57.7	135.9	230.9	95.0	58.9
Georgia	35.7	92.6	56.9	38.6	135.8	261.8	126.0	51.9
Louisiana	37.8	83.4	45.6	45.3	135.8	212.5	76.7	63.9
North Carolina	25.7	87.5	61.8	29.4	83.8	277.8	194.0	30.2
Arkansas	25.0	38.5	13.5	64.9	67.9	78.0	10.1	87.1
Mississippi	13.0	40.1	27.1	32.4	50.0	92.5	42.5	54.1
South Carolina	12.2	43.1	30.9	28.3	49.7	155.9	106.2	31.9
Total or Average	591.5	1,083.5	492.0	54.6	1,700.5	2,946.9	1,246.4	57.7

behavior in southern and national unionism. Can it therefore be argued that the small membership and low degree of union organization in the South are due more to the South's status as an "under-developed" area than location? Data challenging this hypothesis, the retarded growth of unionism in southern textiles, apparel and road transportation, have already been indicated. The next step would be a comparison of employment organized by state and industry, but due to the nature of the membership data, such a test was not possible. Hence, the problem was approached by indirect means. Before turning to these data however, let us first examine unionism in textile manufacturing, where some details are available.

The New England states were about as low in organization as southern states in 1939, but, in contrast to the states of the South, registered greater than average gains in unionization between 1939 and 1953.¹⁰ (Chart 1.) One of the most important reasons for the disparity in growth was the extensive unionization of textiles in New England, but not in the South; and in the South, textiles are an even larger source of employment. Using the membership of the principal textile unions, the percentage of textile wage and salaried employees organized ranged from about 60 in Massachusetts to 3 in Georgia in 1953. For North and South Carolina, the estimates were 6 and 7 per cent, respectively.

If the hypothetical figures of union membership are reduced to percentages

¹⁰ Vermont was the sole exception.

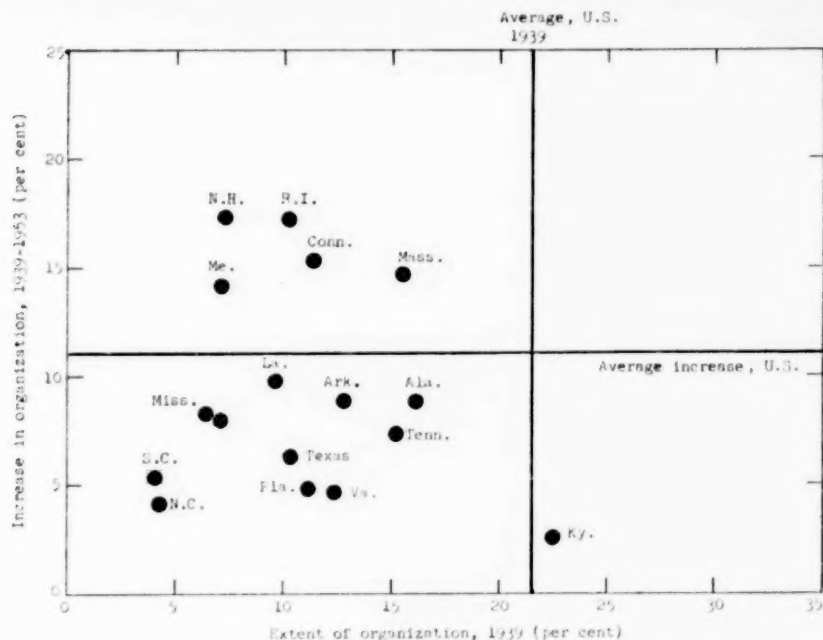


CHART 1

Growth of Union Organization in Selected States, 1939-1953

of nonagricultural employment in 1939 and 1953 (Table 6), they show that each southern state could have supported a higher incidence of organization than actually prevailed in both years (Table 4). These results do not suggest southern states could have been as unionized as the average for the United States; as the table shows, only Kentucky, in both years, and Texas, in 1939, had an occupation-mix which could have yielded so high a degree of organization. The figures do indicate, however, that the South had an industrial structure capable of supporting a greater degree of unionism than existed in both 1939 and 1953.

Hence, it follows that the low incidence of union organization in the South appears to be due more to historical and institutional factors than to the state of southern industrial development. While secular movements in the ebb and flow of trade unionism have embraced the South, the region has resisted extensive unionization of its wage earners.

The evidence would have been even more convincing if, in computing the national averages of industry unionization (which were then weighted by the comparable state employment), the South could have been eliminated. This method would have yielded a much higher incidence of industry organization in the balance of the country and weighting these results by southern

TABLE 6
HYPOTHETICAL EXTENT OF UNION ORGANIZATION OF NONAGRICULTURAL EMPLOYMENT
IN TWELVE SOUTHERN STATES, 1939 AND 1953
(Per Cent)

State	1939	1953
Kentucky	27.0	34.8
Texas	22.2	31.3
Tennessee	18.9	30.9
Louisiana	21.2	30.5
Alabama	20.9	30.2
South Carolina	14.3	29.1
Virginia	21.1	29.0
Georgia	18.1	28.9
Florida	19.6	27.6
North Carolina	14.3	27.5
Mississippi	19.9	27.2
Arkansas	19.6	24.7
Average, Twelve States	19.9	29.7
Average, United States	21.5	32.6

employment, the hypothetical estimates of southern membership and incidence of unionization would have also been higher. In turn, the difference between actual and hypothetical membership would have been greater.

One further observation to be made on the relationship of union growth and industrial development is to point out that nearly thirty years ago Broadus and George Mitchell attributed the absence of union organization in southern industries, particularly cotton textiles, to "the newness of industrialism in the South."¹¹ It is doubtful, at least to this writer, that this alone can still account for the low incidence of union organization in the South.

Some Factors in Southern Unionism

Some factors that have shaped the growth of unionism in the South have doubtless persisted through the years, although changing in their importance, while others are of more recent origin.¹² Whether they are adverse or favorable, it is well to start with the premise that "no section of the country can lay exclusive claim to good or bad (labor-management) relations."¹³

In the task of organizing the unorganized in the South, some of the principal barriers appear to be state and local law, employer opposition, an abundant labor supply and racial problems. Among the forces favorable to unionism in the South are Federal labor legislation, a powerful national trade union movement and the continued growth of employment opportunities.

¹¹ George S. and Broadus Mitchell, "Cotton Mill Labor," Chapter 18 in J. B. S. Hardman, ed., *American Labor Dynamics* (New York: Harcourt Brace and Co., 1928), pp. 209-210.

¹² For example, see G. T. Schwenning, "Prospects of Southern Textile Unionism," *Journal of Political Economy*, December 1931, pp. 783-810; H. M. Douty, *op. cit.*, pp. 580-582.

¹³ *Labor Management Relations in the Southern Textile Industry*, Report of the Subcommittee on Labor-Management Relations, Committee Print, U.S. Senate Committee on Labor and Public Welfare, 82nd Cong., 2d sess. (Washington, 1952), p. 1.

None of the southern states has a labor relations law similar to the National Labor Relations Act or the Labor-Management Act. In the absence of such legislation and despite the federal labor relations act, courts of local jurisdiction¹⁴ are becoming the formulators of government labor policy in the South through the labor injunction.¹⁵ It must be emphasized, however, that it would be "misleading to generalize about the South as a homogeneous region with respect to injunction activity."¹⁶ Not only is this qualification applicable with respect to states, but also as between cities, and urban compared to non-urban areas.

For recent years, the total volume of injunction activity in the South is unknown, but a thorough survey in Birmingham, Alabama about 1950 indicated a ratio of unreported to reported cases of 7:1.¹⁷ Whatever the number of cases, available evidence shows a rise in injunction activity in the South during the post-World War years (1946-1950) compared to the prewar and war years (1932-1945).¹⁸

Where unionism is weak, as in the South, use of the labor injunction can be crucial in resolving a representation dispute regardless of the total volume of injunction activity. A special study of 50 cases revealed that when injunctions were issued in disputes arising from new organization and where the union was already established, the union failed to gain or maintain its status in a majority of the disputes.¹⁹ Although causality cannot be attributed solely to the injunction, yet if these findings are compared with those of a similar study in the Los Angeles area, where unions are strongly entrenched and the labor injunction frequently used, the injunction's effectiveness in industries and areas where unionism is weak becomes evident. In the Los Angeles area,

Injunctions are still frequently obtained...as one means of helping to settle labor disputes, though whether the courts play as prominent a role in labor disputes as they did fifteen or twenty years ago (prior to 1950) is doubtful...The labor injunctions of today do not, in most instances, have the crippling effect of the injunctions of the twenties and early thirties. This is particularly true with respect to industries organized by strong

¹⁴ Of the southern states, only Louisiana, as of 1950, had a "little" Norris-Laguardia Act. "The Labor Injunction in the Southeastern States—Final Report," in *State Court Injunctions*, Report of the Subcommittee on Labor-Management Relations, U.S. Senate Committee on Labor and Public Welfare, 82nd Cong., 1st sess., S. Doc. 7 (Washington, 1951), p. 95.

¹⁵ Compare this with the situation in Wisconsin where a special board exists for the prevention of unfair labor practices. In Wisconsin it is possible to get an injunction in state courts but there is little resort to the courts because (1) Acts enjoined by a court are generally unfair labor practices under the Wisconsin Employment Peace Act. (2) Judges prefer the Wisconsin Employment Relations Board to process disputes, even though the law does not make a Board order the exclusive remedy. (3) There is no time advantage in going to the court. "Labor Injunction in Eight Midwestern States, 1933-50," *ibid.*, pp. 13 and 14.

¹⁶ "The Labor Injunction in the Southeastern States—Final Report," *ibid.*, p. 105.

¹⁷ Edward J. Kilberg, *The Labor Injunction in the Southeastern States* (Master's Thesis, Duke University 1951), p. 69.

¹⁸ *Ibid.*, pp. 73 and 74.

¹⁹ *Ibid.*, p. 132.

unions. Goods cannot be manufactured with court orders, and if the men are solidly behind the union, it will not be too seriously hampered by court action.²⁰

The onus of most southern labor injunctions studied fell upon textile unions, chiefly in non-urban areas.²¹ Next was trucking and warehousing.²² Since both industries lagged markedly in union growth in the South compared to other sections of the country between 1939 and 1953, as previously noted, it is doubtful that the small growth of unionism and the high incidence of injunctions in these industries can be mere coincidence.

To place the role of the labor injunction and southern anti-union labor legislation in perspective, one must also consider the attitude of southern communities and employers. In the view of a senatorial study of labor-management relations in southern textiles, federal law guaranteeing the right of self-organization free of interference was frequently denied workers by "citizens" groups in "closed" communities and this was "inimical to industrial peace."²³ Because of their insulation, the report continued, such groups could not be reached by the federal labor relations law.²⁴

Commenting on this declaration in a minority report, Senator Taft wrote:

It is certainly understandable that in some communities public sentiment is very much opposed to unions, and there seems to be no reason why such public sentiment should be restrained from affecting the employees who are citizens of that community and likely to share in its general public sentiment.²⁵

Changes in the Wagner Act have apparently made it more difficult to establish employer responsibility for acts of "citizens" groups interfering with workers' right of self-organization,²⁶ but to ascribe community opposition only to employer instigation probably overlooks some basic realities. For example, frequently one or two establishments are the major employers in a small community and may even have migrated there in order to escape unionization elsewhere in the country. Afraid lest the company may shift its plant again if faced with the possibility of organization, such a community may become actively hostile to unions.

The linking of trade unionism with communism and corruption, justified or not, is probably another important reason for hostility to unions in "closed" communities.

Employer opposition to collective bargaining through trade unions doubtless constitutes the most serious obstacle to the advance of union organization. Because a detailed examination of this factor would stretch the scope of the

²⁰ "The Use of Injunctions in Labor Disputes in Los Angeles County," *State Court Injunctions*, pp. 56-57.

²¹ Edward J. Kilberg, *op. cit.*, pp. 75-77.

²² *Ibid.*, p. 76.

²³ *Labor-Management Relations in the Southern Textile Industry*, p. 68.

²⁴ *Ibid.*, p. 68.

²⁵ *Ibid.*, p. 71.

²⁶ *Ibid.*, p. 49.

TABLE 7
RESULTS OF NLRB REPRESENTATION ELECTIONS, SOUTH AND UNITED STATES,
1946-1955

Year	(Per Cent)		Votes Cast Against Unions	
	Eligible Voting			
	South	U.S.*	South	U.S.*
1946	82.2	82.6	28.8	23.3
1947	85.7	86.4	30.7	20.2
1948	86.9	86.8	27.6	21.9
1949	89.4	87.3	35.5	25.0
1950	81.9	89.1	29.4	14.3
1951	89.5	87.9	37.2	22.4
1952	88.5	86.2	31.6	23.4
1953	86.6	86.7	29.3	20.3
1954	90.4	87.3	37.3	28.3
1955	90.1	87.3	42.4	22.0
Average	86.6	86.7	32.5	21.7

* Excludes twelve southern states.

Source: Annual reports of the National Labor Relations Board.

paper, suffice it to note what was said on this issue by the majority report of the senatorial study on labor relations in southern textiles:

The inescapable conclusion to be drawn from the subcommittee's studies of labor-management relations in the southern textile industry is that for all practical purposes self-organization and collective bargaining are steadily losing ground. The retreat of union organization is being compelled by employer campaigns on an area wide front. Much of this campaign is being conducted in violation of the Labor-Management Relations Act and the National Labor Relations Board appears powerless to cope with the situation.²⁷

The minority report viewed the subcommittee's study as an attack on the Labor-Management Act of 1947 inspired by the Textile Workers—CIO because of its failure to organize southern textile workers.²⁸

Whatever criticisms there may be of the Labor-Management Act of 1947 and of delays in administering the law,²⁹ it still guarantees workers the right of self-organization free of employer interference, restraint or coercion and provides a peaceful, powerful method for determining workers' wishes with respect to representation. Few unions, however strong, eschew the law's protection.

Statistics of representation election conducted by the National Labor Relations Board permit one measure of the allegation that southern workers simply do not desire union representation. As Table 7 shows, for the decade ending in 1955, an average of two-thirds of southern workers voted for union representation. It is also evident, however, that rejection of union representation

²⁷ *Ibid.*, p. 64.

²⁸ *Ibid.*, p. 71.

²⁹ *Ibid.*, pp. 25-28, 37-38, 63-69.

was greater in the South than in the balance of the country. In a few states the vote against unions has at times exceeded the vote in favor of unions.³⁰

A unified trade union center and numerous strong national unions with membership dispersed throughout all nonagricultural industries can provide an experienced cadre of union organizers and a solid base for mounting continuous organizational drives on southern industries. Whether these will be massive assaults on the major centers of non-union employment, or strategically selected firms and localities remains to be seen. Behind such an appearance of power however, lie certain weaknesses such as divided jurisdiction, conflicting jurisdictional claims, and the rising issue of corruption.

What union membership may be anticipated in the South? One possible measure would be the difference between actual membership and nonagricultural employment; but such a potential is unrealistic. A more reasonable standard is suggested by Table 5. Given the national percentages of industry organization and composition of southern employment in 1953, total southern membership could be increased by almost three-fourths, or about one and a quarter million above the level prevailing in that year.

Highest on the union list for organization will probably be manufacturing industries. Textiles is foremost. Others are apparel, furniture and lumber. Among the non-manufacturing industries, road transportation looms the most likely. In the nationally unorganized service and public service industries, unionization in the South as well as in the nation has barely started and neither is likely to become unionized in the foreseeable future.

³⁰ North Carolina in 1949, 1951, 1952, 1954, 1955 and in Georgia and Alabama in 1955. From the annual reports of the National Labor Relation Board.

NATIONALIZATION, UNION STRUCTURES, AND WAGES POLICY IN THE BRITISH COAL MINING INDUSTRY*

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1957 marked the tenth anniversary of nationalization of the British Coal Mines. As is customary, a variety of assessments have been made of the failures and achievements of the ten years—and it must be said that in terms of production, investment, rationalization, and similar objectives, the record is so good that no one suggests the industry be denationalized as was done with steel and portions of road transport.

Nationalization was intended to and did have an effect on labor-management relations in the industry. Assessments of these vary widely. David McCord Wright has said: "The record of the United Kingdom mining unions in sabotaging production smells to high heaven—even when their acts were imperilling the whole socialist experiment—to say nothing of their country."¹ On the other hand, the National Coal Board itself observed:

The nation has good cause to be proud of the men who work in British Coal . . . The flexibility of the British miner and his adaptability have made possible the use of new and mechanised methods, with their corresponding increases in output. In an industry whose environment and traditions have always tended toward complicated labor relations, large parts of the coalfields are nevertheless strike-free, and have been over the ten years.²

An assessment of the success of nationalization on even so limited an area as labor relations is beyond the scope of this paper. But nationalization has had considerable impact on the wage-making process of the industry. One limited aspect of this impact is here considered.

The subject of this paper is the effect of nationalization on the structure of unionism in the coal mining industry. It is generally accepted that the institution of collective bargaining, and the policy-making function of unions are appropriate subjects for the investigations of economists. But union wage policy and its effects on particular wages are functions of union structure, and the level of authority at which effective decisions are made. Responsiveness to craft or

* For general discussions of labor relations in the British coal mining industry under nationalization, see: George B. Baldwin, *Beyond Nationalization: The Labor Problems of British Coal*, Cambridge, Harvard University Press, 1955; also S. K. Saxena, *Nationalisation and Industrial Conflict: Example of British Coal-Mining*, The Hague, Martinus Nijhoff, 1955. For another discussion of the impact of nationalization on the National Union of Mineworkers, see: George B. Baldwin, "The Effects of Nationalization on Britain's National Union of Mineworkers," *Proceedings, Industrial Relations Research Association*, 1952.

¹ David McCord Wright, "American Capitalism in the Cold War," *Georgian Business*, Dec. 1955, p. 3.

² National Coal Board, *British Coal: the Rebirth of an Industry*, London, National Coal Board, 1957.

regional interests, the scope of possible employment or membership effects, or bits of comparison, virtually all of the considerations influencing the decision maker vary both obviously and subtly with the breadth of his constituency and responsibility.

This is the economic relevance of a study of forces influencing unions structure. Nationalization has, directly and indirectly, influenced the structure of British coal mining unions. It has done so principally by reason of two aspects of nationalization. One, nationalization as a centralization of managerial authority, can be considered apart from social ownership *per se*. It is quite possible that centralization under private ownership would have, or might in other cases have, similar implications for union structure. As to this aspect of nationalization, the industry might be regarded as a case relevant to the effect of centralization regardless of property forms.

The other facet of nationalization here to be considered is dependent upon the change in ownership; it is the altered terms of managerial responsibility. The effects of this shift in managerial criteria are subtle and at the same time cumulative. As will be indicated, one expression of the altered terms of managerial responsibility is in managerial wages policy. This in turn, both directly and through indirect effects on union distribution of authority, reacts to place union wage policy in an altered framework. Its relevance is peculiar to the analysis of wage-making in nationalized industry, and is treated here from the point of view of its effect on the distribution of union authority. In the mixed economies of western Europe, wages in nationalized industries react on the whole wage structure and need to be better understood. It is hoped that some contribution is made to this understanding.

NATIONALIZATION AS A REORGANIZATION OF MANAGERIAL AUTHORITY

Nationalization almost inevitably implies a greater degree of centralization of managerial control than is likely to have existed under private ownership. This was certainly the case in the British coal mining industry. The British industry included about 1500 pits under many owners, from large combines to companies operating only a single pit. Each unit of control had legal managerial autonomy. For purposes of collective bargaining, certain of this authority was typically delegated to 21 regional Owners' Associations. Since 1921, the principal union of colliery workers, the National Union of Mineworkers, formerly (until 1944) the Miners' Federation of Great Britain, had attempted to induce or coerce the owners to centralize authority for at least certain key decisions in collective bargaining at the national level. From 1926 until the wartime period, this effort was largely unsuccessful. During the War, greater national centralization was achieved.³ But during most of the history of bargaining, managerial authority rested in associations of coal owners in limited geographical areas, typically though not universally counties, modified sometimes by the logic of geology.

Nationalization resulted in the creation of a central national authority with power to make national decisions, or, if it chose, to delegate all or a portion of

³ A "Joint National Negotiating Committee" was finally established in 1943.

that authority to subsidiary organizations of its own creation. It would have been logically and legally possible for the National Coal Board to establish a managerial structure which would have left even larger areas of autonomy than it did at lower levels of the hierarchy—in the subordinate Divisions, Areas, or at the pit. But the creation of central ownership meant that decentralization of authority required delegation of power downward; while centralization under multiple ownership required delegation of power upward. Inevitably, more decisions were taken at the top than under the old ownership pattern.⁴

The creation of a permanent national managerial authority, then, resulted in much greater concentration of power than was the case under private ownership. This was, in fact, one of the intended effects of nationalization. But further, the fact of creation of a formal central managerial authority stimulated the Union to further pressures to centralize managerial decisions at the top. In turn, changes in the distribution of managerial authority created pressures to redistribute authority in the union.

This tendency toward centralization of authority was perhaps less pronounced in respect to labor relations than in many other areas of decision-making, e.g., investment or development decisions, and pricing policies. But such tendency as there was to centralize labor relations policy created a need for more effective centralization of union authority.

Pressures toward such reorganization of union authority did not first come with nationalization. In fact, the major union in the industry was transformed, at least constitutionally, from a loose federation of Associations, organized on a coal field or county basis, into a truly national union in 1944, before nationalization. But this accomplishment came in the face of strong resistance to centralization other than formal.⁵ Contributing factors were, no doubt, the degree of centralized decision-making consequent upon wartime wage regulation, and anticipation of nationalization.⁶

Centralization took two forms in the coal mining labor movement. One was the shifting upward of power within unions; the other was a tendency toward consolidation and merger of unions.

A. Shifting Upward of Power in the Union

As to the shifting upward of power within the unions, the best example can be taken from the dominant union in the industry, the National Union of Mine-

⁴ For a discussion of the issues in managerial organization in the N.C.B. see: National Coal Board, *Report of the Advisory Committee on Organisation*, London, N.C.B., Feb. 1955, better known as the "Fleck Report" from the name of the Committee Chairman.

⁵ See, for example, position of Nottingham and Yorkshire Areas referred to in footnote 18, below.

⁶ See, for example, *Circular of the National Union of Mineworkers*, dated September 15, 1944, prior to ballot vote on reorganization. In explaining the proposed change, the circular said: "We cannot on the one hand argue that the only real salvation for the coalmining industry is to be found in complete control through nationalisation and at the same time argue that the present form of organisation should be retained, leaving each district to do as it pleases, irrespective of the effect of any such action that may be taken on the workmen in other coalfields. . . . War conditions, however, have forced the owners and the Government to recognise the absolute necessity of national negotiations . . ."

workers. The tradition had long existed for the old Miners' Federation of Great Britain to formulate broad bargaining policy for the future. From time to time strenuous concentrated efforts were made to enforce a national bargaining demand—these were the issues in the great strikes of 1921 and 1926. Yet there always existed within the union interests devoted to preservation of the highest degree of district autonomy. Given great employer resistance to national bargaining, even over minimum wages, only exceptional circumstances, such as war, brought about any national determination. Even during the War, the scope of national decisions was largely limited to the then revolutionary establishment of a national industry minimum wage.⁷

Since nationalization, the scope of nationally made decisions as to labor policy have broadened considerably. Not only national minimums, but holidays and vacation periods and a host of other allowances have been determined nationally and uniformly. Perhaps the most spectacular achievement was the national rationalization of job classifications and wages for day wage and weekly paid staffs. Centralized managerial authority lent itself readily to these kinds of uniformity. Not only was there union pressure toward uniformity and centralization, but from a central authority point of view, the diversities made no sense, though they may have had meaning in the context of local tradition.

Given a national managerial authority eager and willing to assume responsibility for negotiating these matters, the Union had at least formally to endow some central union authority with negotiating power.

The national negotiating body for the union has been the National Executive Committee of N.U.M., a body which, pre-War, had little bargaining function. Under the Rules of N.U.M., three *ex-officio* members of the National Executive, the President, Vice-President and Secretary of the Union, are elected by the annual delegate conference. All other members are designated by the Areas,⁸ with Area representation in rough proportion to membership. In 1957, in addition to the three national officers, there were 29 members of the Executive, representing 19 Areas.⁹ Seventeen of the 19 Areas were represented on the Executive by either their Area President, their Area Secretary, or both.¹⁰ Of the 29 representatives, 25 were either President or Secretary of their Area, or fulltime elected Miners Agent. Thus, the Executive was dominated by powerful political figures in the constituent organizations. Decisions of the national union are taken by the Executive as a whole, and can be said to represent compromise and inter-

⁷ See "Report of Board of Investigation into the Immediate Wages Issue in the Coal Mining Industry," H.M.S.O., June, 1942, the so-called "Greene Recommendations." Also the Awards of the National Reference Tribunal under the chairmanship of Lord Porter, especially the "Fourth Porter Award."

⁸ In two cases, small areas are grouped for purposes of representation.

⁹ Including as Areas the national group of cokemen, two consolidated areas, two areas of craftsmen, and two areas of power workers having their basic membership in other unions. This last peculiar arrangement will be later referred to. It should be noted that, except for some consolidation, the N.U.M. areas are the traditional ones, and little has been done to conform them to N.C.B. administrative units.

¹⁰ This includes the two craftsmen's groups represented by secretaries of constituent associations in the Group, which is a grouping of old regional craft unions.

play of fairly autonomous power groups, rather than the imposition of a decision taken from a national view by a unified national organization. The decision is national in the sense that it is binding on the Union as a whole, rather than as a function of powerful central leadership.¹¹

Some qualification should be added to this. In interviews with both union and NCB sources, the comment was made that the present General Secretary of the Union, Mr. Arthur Horner, is an extremely skilled negotiator, and, as such, plays a role of real national leadership. Mr. W. E. Jones, the President, also distinguishes himself as a negotiator. In another sense, both Mr. Horner and Mr. Jones act as real leaders. Mr. Horner is a Communist, Mr. Jones a moderate socialist member of the Labour Party. Where political questions intrude themselves, each guides his faction on the Executive. Furthermore, the extreme left, led by Mr. Horner, has been more aggressive in pressing the economic demands of the Union, while the moderates, led by Mr. Jones, have been more willing to account for the possible economic impact of their positions on the industry and the economy. In this sense, they both have played roles as national leaders.

Yet the resolutions of the issues depend upon votes, frequently closely divided, in which the members act essentially as Area rather than national leaders. In contrast to the pre-War situation of virtual bargaining autonomy in the Areas, nationalization has meant, with respect to collective bargaining matters dealt with at the national level, the imposition of the will of Area leadership in shifting Areas representing a majority of membership on the will of Area leadership in Areas representing a minority. It has not yet meant real centralization of power in the national union as an institution.

The significance of this change should not be understated. With respect to day wage and weekly paid workers, substantial wage differences have largely been ironed out; and Area leaders in the traditionally high wage Areas have loyally accepted and even worked toward these decisions, even though it meant an effective wage standstill for many of their members for several years. But in the 1957 wage settlement, the basic principle of the original agreement of 1955, that personal rates above the nationally agreed standards should remain fixed until the national standards caught up, was broken and some increases were given to all employees, though not to all jobs. This, of course, reflected the pressures on Area leaders in the former high wage Areas. These pressures became effective even though the overwhelmingly dominant political groups in the union are, occupationally, the piece-rated colliers, rather than the few day-wage workers affected.

Thus far, there has been little national union control over the most important element in coal mining wages—the piece rate structures. Except for craftsmen in the traditional crafts, including winding enginemen, most underground workers in British mines are paid by the piece. Methods of piece rate payment vary immensely—even from pit to pit, and more so from Area to Area and Division

¹¹ Furthermore, the Executive Committee ratifies agreements only after its members have received authority from their constituencies.

to Division. For coal face workers, rates may be based on weight, cubic measure, or lineal yard cut off the face. For work behind the face, i.e., packing, timbering, haulage, etc., a like variety of basic methods of piece rate payment exist. Rates may be individual or group. Methods of piece rate payment are largely derived from those prevailing under private ownership, and such uniformity of method as exists relates largely to mines formerly under common management and ownership.

The almost infinite variety of conditions underground require an equal variety of specific piece rate determinations, given the method of payment. Seams vary in width, coal varies in hardness and thus in difficulty of mining. Roof conditions, dust and water, pitch of the seam and frequency of faulting all differ and all influence the ease or difficulty with which coal is got.

These inherent technical difficulties make for decentralization of piece rate decisions. Basic price lists have been, and still are, bargained at the individual pit,¹² though bargaining may be done by Area or Division officers on the part of the N.C.B., and Area officers on the part of N.U.M. But the basic price list is only a part of the piece worker's compensation. Allowances are paid from time to time for conditions or work not envisaged or accounted for in the basic price lists. These allowances are characteristically negotiated between the individual worker or team of workers and the colliery manager. Not infrequently they are negotiated after the work has been completed, sometimes by as much as two weeks. The worker will have worked with some sort of understanding with the underground foreman that an allowance will be paid. He will not know its amount until he receives his pay, and the method of payment leaves him always at least a week behind. If he is dissatisfied, he makes a complaint to the colliery manager, who then negotiates it with him.¹³ In this negotiation he may or may not be assisted by a local Branch officer.

Thus, basic piece rate decisions are made at levels not significantly more centralized than was the case under private ownership; and allowances are decided on largely at the pit level, not uncommonly escaping collective bargaining altogether.

National decisions no doubt influence piece rates indirectly in at least two ways. First, colliery managers are kept under pressure to keep wage costs within predetermined bounds, so that centrally determined policy on the total amount of wage costs and its allocation to Divisions, Areas and pits must have considerable influence. Secondly, changes in national guaranteed minimums and in day wage rates generate pressures to adjust piece rates to maintain traditional relationships. Each round of day wage increases is followed by a straggling and uneven adjustment of piece rates. But no concerted movement to adjust is initiated by the national union, or even in all Areas. It should be emphasized that day wage settlements, and changes in guarantees do not contractually accord the piece worker an automatic adjustment. Such automatic adjustments have occurred in the past—under private ownership and nationalization. In South Wales,

¹² There are exceptions to this generalization in some Areas.

¹³ The author has observed this process in several mines—it is important and widespread.

for example, many of the basic rates date back to before the first World War, and current "price lists" are expressed as the then prevailing tonnage rate, plus several intervening general changes. But the last such general change accompanied the reduction in hours agreement of 1947.

Thus far, then, centralization of managerial authority has not resulted in such centralization of piece rate decisions as to force a redistribution of union function in this regard. However, the N.C.B. and N.U.M. have agreed in principle to the negotiation of a national piece-rate "wages structure." As yet no visible progress has been made; the N.C.B. is engaged in studies preliminary to the making of proposals. There is little doubt that a serious effort will be made, and that if successful it will result in a material transference of power, so far as the Union is concerned from Branch and Area to the National Executive. Determination of piece rates at national level would have been inconceivable under private ownership. But the same qualifications referred to above as to the political structure of the Executive would be relevant. After the wage decision, however, the wage functions of Area and Branch will be administrative.

It should be noted that the several unions other than N.U.M. operating in the industry represent non piece-rate employees, so that effective wage-making, insofar as these unions are effective in that regard, has been transferred to the national level subsequent to nationalization and consequent upon the negotiation of national day-wage, weekly paid and salaried worker agreements.

B. Consolidation and Merger of Unions

Prior to nationalization, a large number of unions were in the industry, some on a national scale, and others on regional scales. The Clerical and Administrative Workers Union attempted to organize white collar workers on a national scale. Certain of the building trades workers unions had membership among the relevant crafts in certain areas. The National Association of Colliery Overmen, Deputies and Shotfrers organized these lower level operating supervisory employees on a national basis. Each of the two general unions, the National Union of General and Municipal Workers and the Transport and General Workers Union, organized workers in the coal mine and coke plant power installations. Even after nationalization, a breakaway union, the National Union of Colliery Winding Enginemen, consolidated certain old regional craft unions of winding enginemen. The Winding Enginemen have been reabsorbed by N.U.M., but in many areas, along with certain other craft groups, have separate local unions and are affiliated to national craft areas. The National Association of Clerical and Supervisory Staffs, affiliated to Transport and General, had some membership in these grades. A basically regional union of clerical grades had membership particularly in the midlands. However, no real competition existed for the underground colliers.

The nationalization statute required the National Coal Board to recognize for purposes of collective bargaining and the establishment of "conciliation" (i.e., bargaining and grievance handling) machinery, unions appearing to it to represent substantial portions of its employees or of any class of employees.

As to manual workers, although other unions were active in the field, it was

apparent that N.U.M. was the overwhelmingly dominant union, and that no other union could effectively represent workers on a national scale. Of necessity, other unions in the field recognized this and came to a variety of arrangements with N.U.M. The three important building trades craft unions, the Amalgamated Union of Building Trades Workers, the Electrical Trades Union and the Amalgamated Engineering Union each agreed that their members in and around collieries should become members of N.U.M., though they might retain their craft union membership. As to bargaining, N.U.M. was to represent them, although it agreed to hold consultations with these unions when wage negotiations were contemplated. The National Union of General and Municipal Workers, in return for agreement of N.U.M. to withdraw from any privately owned Coke and By-Product plants, agreed that it would cede the right to N.U.M. to represent its members in the coal industry and to cease further recruitment in the industry. But it was further agreed that a representative of General and Municipal would sit as a member of the Executive Board of N.U.M.

An agreement was reached with Transport and General similar to that with General and Municipal, as concerned power workers members of T. and G., except that Transport and General did not agree to cease recruiting.

With these agreements, N.U.M. became, in effect, the exclusive union for manual workers. It was then exclusively recognized by N.C.B. for purposes of designating the "workers' side" of the Joint National Negotiating Committee and its subsidiary organizations. In addition, an informal union shop arrangement and a contractual voluntary check-off exists. It should be noted that for these purposes, power workers whose basic membership is in Transport and General or General and Municipal are regarded as members of N.U.M.

For underground supervision, in the jobs of overmen, deputies and shotfirers, concurrent jurisdiction in some Areas is exercised by N.U.M. and the National Association of Colliery Overmen, Deputies and Shotfirers, and recognition is extended both organizations.

At the outset, four unions held membership among clerical and administrative workers—N.U.M., the National Association of Colliery Officials and Staffs, the Clerical and Administrative Workers, and the National Association of Clerical and Supervisory Staffs of Transport and General. The second named union had a regionally restricted membership, and realized its ineffectiveness in dealing on a national scale. It is said to have made bids to both C. and A.W.U. and N.U.M. for affiliation. It was finally absorbed into N.U.M. as the Colliery Officials and Staffs Association and given status as an Area in N.U.M. N.U.M., then, through C.O.S.A. engaged in an active recruiting campaign in areas where it had never had or even claimed substantial clerical membership.

N.C.B. then recognized three unions for these grades—N.U.M. (C.O.S.A.) Transport and General (N.A.C.S.S.), and C. and A.W.U. In the original Negotiating Committee, N.A.C.S.S. with C. and A.W.U. could have exercised a majority vote on the workers' side. However, Transport and General did not apparently wish to engage in a dispute with N.U.M., and its representatives invariably voted with N.U.M., leaving C. and A.W.U. in a minority. The latter

two engaged in active competition, and several disputes were taken to the Trades Union Congress on poaching charges. At one stage, the negotiating machinery broke up when C. and A.W.U. walked out, and for a period, N.C.B. had to negotiate separately with each. Finally, new machinery was established on the basis of membership counted on the basis of check-off authorizations. This gave N.U.M. a majority position, N.A.C.S.S. merely nominal representation, and C. and A.W.U. about one-third of the workers' side delegation. While active and sometimes bitter competition still exists between the two substantial unions organizing colliery white collar workers, one result of nationalization has been considerable simplification of union structures in these grades.

One interesting consequence of nationalization as concentration of management was the organization of the British Association of Colliery Managers. This organization, registered as a trade union and engaging in true collective bargaining, represents management employees from colliery undermanagers up to Department Heads. Interviews with persons in B.A.C.M. established that the need for union representation appeared with nationalization when N.C.B. became the sole employer, particularly of certain professions such as mining engineers for whom no alternative employment existed.¹⁴ It should be noted that a union for managers had existed before nationalization, though its membership was limited regionally and negligible even where it was active.

THE TERMS OF MANAGERIAL RESPONSIBILITY

Centralization of managerial control was one incident to nationalization; though it is neither a necessary consequence of nationalization, nor is nationalization the only device through which such centralization can be accomplished. But changed terms of managerial responsibility and changed criteria of managerial decision making are a necessary consequence of and inseparable from nationalization. These changed terms of responsibility have had more subtle effects on union decision making and distribution of authority.

The objects of nationalization may be various and complex. Nationalization of British coal mines resulted from pressures from segments of society which held to a dogmatic belief in nationalization in principle, and from those who, though uncommitted to generalized nationalization, believed that in the specific case of coal social ownership was the only answer to problems of the industry and to the economy consequent upon inadequate performance of the industry.

Among the problems peculiar to the industry were, first, the special dependence of the British economy on coal. In 1954, 88% of British energy consumption was still derived from solid fuels,¹⁵ despite increases in petroleum use. Thus, British industry depends unusually on coal both technologically and as a cost factor.

¹⁴ An interesting footnote to the organization of B.A.C.M. concerns the Labour Staffs Association, a union of labor officers. It was organized at the instance of Eddy Edwards, former N.U.M. official who became Industrial Relations Director. Mr. Edwards felt that the labor officers should have no affiliation with any union with which they had to deal. Consequently, L.S.A. was organized so that they might deal with the Board for themselves.

¹⁵ Organization of European Economic Cooperation, *Industrial Statistics*, Paris, O.E.E.C., 1955.

In addition, coal had traditionally been a major source of foreign exchange through direct exports. As a domestic fuel it is an element in living standards and living costs. The industry is a very large employer of labor; and no one in the British coalfields forgets the misery attendant upon prolonged unemployment in the coal mines.

Britain, by 1946, had reached almost universal agreement that private ownership in the industry could not assume the necessary responsibilities. Production was at its lowest point since the 1880's. Investment, modernization and development had virtually ceased in the late '20's. Manpower was inadequate and wages and conditions of work insufficient to keep good workers in the mines and attract youth. Nationalization seemed to most British people to be the only answer.

The nationalized coal industry, then, became directly responsible for the accomplishment of social goals of high output and price policies directed toward provision of low cost energy. Profit no longer was to be the crucial criterion of decision making. Overall, the Act of Nationalization directed the N.C.B. to manage the industry in such fashion as to break even over long periods. As to internal price relationships, the Board was free to use price discriminations, e.g., between domestic and industrial fuels, for social purposes. Profits from domestically produced coal could be and were used to sell at less than cost imported coal of kinds and qualities not produced in sufficient quantity domestically.

Thus, the management of the British coal industry, no longer responsible to profit-seeking owners, but to the Minister of Fuel and Power and ultimately to Parliament,¹⁶ attempts directly to serve those social purposes which, most British observers feel, were served inadequately under private ownership by the guiding "invisible hand."

As to labor policy, these terms of responsibility reflect themselves in several ways. First, wage costs may be incurred for the primary purpose of maintaining and increasing output, with only secondary consideration to their effect on profit. This means not only a greater willingness to maintain high average wages in the industry; it means also a willingness to pay high wages in individual pits and districts to keep "uneconomic" mines in operation.

Under private ownership, coal mine wages had been related traditionally, either directly or indirectly to price and profit. For many years, wages were tied by sliding scales to coal prices. Later and until nationalization, wages were tied, district by district, to ability to pay through "district ascertainments" of profitability. Under the latter system, wide wage differences between geologically good and bad districts, and between districts producing for domestic markets and those producing for international markets had developed.

Under national ownership, with profit maximization no longer a significant criterion, mines which were individually "not profitable" were continued in operation in order to get coal,¹⁷ and those wages paid necessary to retain labor

¹⁶ These controls are quite indirect. The Minister names members of the Board, gives general directions on matters of national interest, and approves major investment programs.

¹⁷ There are limits, of course, to this. Mines have been closed which could have produced

in the pit, or in the industry generally, given the principle of greater national wage uniformity as an objective.

While recruitment and retention of labor was an element in the willingness of the N.C.B. to negotiate significant absolute and relative wage increases for workers in the industry, other social criteria were given more weight than was the case under private ownership. Greater wage uniformity was sought as a social goal, perhaps vaguely related to the ethic of "equal pay for equal work." The principle that socially owned industry owed a social obligation to its employees to provide them with wages consistent with the social view of adequacy became relevant to the wage-making process. Enhancing the status of the coal miner, both with a view to recruitment and as a principle of social justice influences the Board. This latter reflects itself not only in the goal of wage leadership in the mines, but provision of amenities such as pithead baths, better housing, coal community development schemes, etc.

On the other hand, the price obligations of the Board placed limits on wage policies. Absorption of losses on imported coal, indirect subsidies to steel and railroads through provision of cheap industrial coal, and the political implications of domestic fuel pricing policies meant that revenues of the industry were probably less than they might have been under private ownership, given the highly unlikely circumstance that output would have been as great. British coal is considerably the cheapest in the western world.

These terms of responsibility altered the relevant bargaining considerations. The first, and perhaps most significant consequence was to make immediately obsolete the system of "district ascertainments" which tied wages, district by district, to ability to pay. Insofar as ability to pay remained a criterion, it was on a national basis, and related the total industry wages bill to all claims on the industry, including the socially oriented price policies.

This had a double impact on the union wage-making process. In the first place, it reinforced those tendencies toward centralization of union policy-making resulting from managerial centralization. The geologically poor areas, and those producing export coal, could exert additional internal pressure toward wage uniformity, and subsidy of their Areas from those producing greater revenues per man-shift. Though there was some resistance from the high wage areas,¹⁸ the general socialist ethic predominant in the Union, and the specific ethic of "equal pay for equal work" muted opposition considerably.

more coal. But individual profitability was no longer the key consideration. The criterion becomes, primarily, whether more coal could be obtained in total, by continuing a mine in operation, or closing it, considering the transferability of labor and capital equipment in place, etc. Furthermore, at an overall zero rate of profit (though interest on funds borrowed from the Treasury to compensate former owners had to be paid), more mines could be operated than at any positive rate of profit, unless, as may have been the case, prices were held below those that otherwise would have prevailed.

¹⁸ Prior to reorganization of the Mineworkers' Federation of Great Britain, the Nottingham Area, one of the relatively profitable and high wage areas, had expressed considerable reservations concerning the impact on it of a national wages agreement. The same was the case in Yorkshire. See: Mineworkers' Federation of Great Britain, *Minutes of Executive Committee*, Oct. 26, 1944.

Secondly, the social charter of the nationalized industry made national responsibilities relevant at the bargaining table. N.U.M., which had espoused nationalization throughout its history, arguing that only thus could the industry fulfill its responsibilities not only to workers but to society, had to recognize the relevance of these special considerations as well as the more general responsibility for wages restraint applicable to both public and private industry. But the very nature of these responsibilities requires their assessment and assumption at the overall industry wage-making level. There simply had to be an *industry* wages policy, rather than, as before, twenty-one district policies.

The cheerfulness with which these responsibilities have been accepted has varied considerably. Perhaps the most vigorous spokesman for their recognition has been the General Secretary in the Durham Area, Mr. Sam Watson, who politically adheres to the moderates in the Labour Party. On the other hand, the President of the South Wales Area, Mr. Will Paynter, recently said:

Nationalisation of coal mining has therefore been used to provide coal to big industry at low prices to enhance their profit. In addition, it has been exploited by the State in meeting financial burdens that legitimately are liabilities for Exchequer [referring to payment of interest on funds borrowed from the Treasury for investment, and on amounts owing to former owners] . . . A bad set of employers has been replaced by a better set, but the relationship of master and servant still operates.¹⁹

Mr. Paynter, politically is on the extreme left. That faction in N.U.M. has been extremely impatient with what it considers the overindulgence of the Union to the above-described responsibilities, and what it regards as the sacrifice of the miners' interests to those of other groups. This is despite the fact that the greatest strength of the left is in Scotland and South Wales, two traditionally low wage areas that have benefited most and prospectively will benefit even more from "levelling up" of wages.

But despite qualifications and resistances here and there, the Union has taken cognizance of the altered terms of responsibility and altered managerial criteria. In so doing, sometimes subtle forces have shifted decision-making power toward top levels in the union hierarchy.

CONCLUSION

In addition to its direct effects on managerial wages policies, only briefly adverted to in this paper, nationalization has had and will have indirect effects through its impact on the distribution of authority in the coal mining labor movement. Centralization of managerial authority reinforced existing forces within the Union toward shifting upward of wage-making power. Internal political forces in the Union have impeded this process, but it has proceeded, and is likely to proceed further upon the achievement of national piece rate policy determination, a principle to which the Union is already committed. In addition, nationalization has tended to mitigate inter-union competition by encouraging merger, consolidation, and accommodation of competing unions.

¹⁹ National Union of Mineworkers (South Wales Area), Address by Will Paynter (President), Annual Conference, Porthcawl, May, 1957.

Altered terms of managerial responsibility, in addition to its direct effect on wages policy, has served to strengthen forces within the labor unions working toward centralization. Nationalization implies managerial decision making on the basis of national responsibilities, and has made these criteria the significant bargaining ones. But national responsibility can only be assumed at the national level. Local, craft and regional interests within the unions have been subordinated since their expression. Already inconsistent with the official union ethic, they became irrelevant in the new context of bargaining.

On the whole, then, nationalization has considerably strengthened forces working toward upward redistribution of power and authority in the unions. It is inevitable that union wage policy will reflect this redistribution. The unions will likely become more effective bargaining forces; at the same time they can more readily adapt themselves to the requirements of national responsibility. Wage patterns will no doubt alter. Pressures toward greater uniformity already existing and accounting indirectly for centralization will in turn be reinforced. Job rate relationships will be administered from a national view of politics and rationality rather than from local views of politics and tradition. These, and possibly other consequences can already be observed, but their development is beyond the limited scope of this paper. They will, no doubt, have even farther reaching effects on the whole structure of wages in the mixed economy of Britain.

STATE REGULATION OF COMMERCIAL MOTOR CARRIERS IN THE SOUTHEAST

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I. INTRODUCTION

The purpose of this study is to attempt to find one or more acceptable answers to a question that is of vital concern especially to the proponents of a free-market system: Do state lawmakers, in the exercise of police and taxing powers in the regulation of commercial motor carriers, enact measures which tend to impede the flow of goods and services from one state to another?¹ The complexity of some of the problems of interstate trade barriers is illustrated here by reference to enactments in the area of taxation, registration fees, size-and-weight regulations, and administrative practices, as they apply to commercial motor carriers in the states of Georgia, North Carolina, South Carolina, and Virginia. Our interest is limited, furthermore, to only those phases of state regulation which relate to interstate movements.

Federal versus State Authority. The freedom of the market place may be restricted by both Federal and state legislation, court decisions, and administrative practices. It is probably too well known to require repeating here that Congress is vested with authority by the Constitution to "regulate commerce with foreign nations and among the several States, and with the Indian tribes."² This broad grant of power, and the even broader interpretations that have been placed on the commerce clause by the Supreme Court in given cases from the days of Chief Justice John Marshall down to the present, might indicate to the uninitiated that the conflict between Federal and state authority in the important matter of the interstate flow of goods and services has been resolved in favor of the former. For the most part, the Supreme Court has been reluctant to set aside state statutes based on taxing and police powers. Mr. Justice Rutledge observed in the *Prudential* case.³

For concurrently with the broadening of the scope for permissible application of federal authority, the tendency also has run toward sustaining state regulatory and taxing measures formerly regarded as inconsonant with Congress' unexercised power over commerce . . . In effect, they have transferred the general problem of adjustment to a level more tolerant of both state and federal legislative action.

In general, the Court will set aside a state statute imposing a burden on

¹ See Board of Investigation and Research, *Interstate Trade Barriers Affecting Motor-Vehicle Transportation* (Washington: Government Printing Office, 1945); Paul Truitt, "Interstate Trade Barriers in the United States," *Law and Contemporary Problems*, Vol. VIII, No. 2 (Spring 1941), pp. 209-222.

² Article I, Section 8, Clause 3.

³ *Prudential Insurance Co. v. Benjamin*, 66 S. Ct. 1142, 328 US 408 (1946).

interstate commerce only when it can be shown that the burden is "unreasonable," "undue," or "unlawful"—terms which the Court uses in such a way as to indicate that they have a common meaning, although this meaning may vary from time to time.⁴ Neither the Federal nor the state governments can justly claim to be consistent protectors of the freedom of the market.

Interstate common and contract motor carriers of persons and property, as these terms are defined in the statutes and by the courts, may be subject to both Federal and state regulations and taxation in a number of instances.

State regulation of motor carriers as an industry dates from the period immediately after World War I,⁵ even though a few states imposed size-and-weight restrictions prior to that time;⁶ the Federal government did not enter the field until 1935 when Congress enacted the motor carrier act.⁷ In the absence of Federal regulation, many states erroneously assumed that they had almost unlimited authority over the interstate movements of commercial motor carriers.⁸ The advent of Federal regulation did not materially reduce the authority of the states to enact measures, under police and taxing power, which were applicable to interstate movements of commercial motor carriers. State and local governments may levy and collect non-discriminatory taxes on motor carrier equipment used in interstate movements if the property has a situs in the taxing district,⁹ and on fuel which is consumed by such units, regardless of where it may be purchased.¹⁰ The gross receipts of interstate carriers, apportioned on a mileage basis, are subject to state taxation.¹¹ A state may levy a 2 percent excise tax on a motor vehicle whose title certificate confers on it the privilege of using the state's roads.¹² A state tax, based on gross weight, is valid if it is applicable alike to all carriers.¹³ A municipal ordinance imposing an annual license tax on motor carriers is valid even if interstate and intrastate operations are inseparable.¹⁴ A state other than the state in which the owner is domiciled may require such an owner to carry workmen's compensation insurance.¹⁵ It is axiomatic that the courts have made a sharp distinction between state authority

⁴ See *California v. Thompson*, 313 US 109, 61 S. Ct. 930 (1941); *Freeman v. Hewitt*, 329 US 249, 67 S. Ct. 274 (1946); *Michigan—Wisconsin Pipe Line Co. v. Calvert*, 347 US 157, 74 S. Ct. 396 (1954).

⁵ See *Public Laws of North Carolina, 1925*, Chapter 50; *Acts of the General Assembly of Georgia, 1925*, p. 219.

⁶ *Interstate Trade Barriers Affecting Motor-Vehicle Transportation*, pp. 5-8.

⁷ 49 Statutes 543.

⁸ See *Buck v. Kuykendall*, 267 US 307 (1925); *Bush v. Malloy*, 267 US 317 (1925).

⁹ *East Coast Freight Lines v. City of Richmond*, 194 Va. 517, 74 SE (2d) 283 (1953).

¹⁰ *Mason and Dixon Lines v. Commonwealth*, 185 Va. 877, 41 SE (2d) 16 (1947); certiorari denied by the Supreme Court, 331 US 807 (1948).

¹¹ *Aero Mayflower Transit Company v. Board of Railroad Commissioners*, 68 S. Ct. 167, 332 US 495 (1947). For restraints on the power of a state to collect a gross receipts tax, see *Railway Express Company v. Commonwealth of Virginia*, 347 US 359, 74 S. Ct. 558 (1954).

¹² *Capitol Greyhound Lines v. Brice*, 70 S. Ct. 806, 339 US 542 (1950).

¹³ *Bode v. Barrett*, 73 S. Ct. 468, 344 US 583 (1953).

¹⁴ *City of Chicago v. Willett Co.*, 73 S. Ct. 460, 344 US 547 (1953).

¹⁵ *Collins v. American Bus Lines, Inc.*, 76 S. Ct. 542, 350 US 528 (1956).

over interstate commercial motor carriers and state authority over interstate rail movements.¹⁶

Restraints on the State Power. A state may not, because of the necessity of a "uniform rule to promote and protect national travel," require the separation of white and colored passengers on motor buses so that persons of different races would not occupy contiguous seats at the same time;¹⁷ the Virginia statute "unduly" burdened "national" commerce. (As to be expected, state courts in the southeast follow the practice of avoiding the application of this rule whenever possible.¹⁸) An Arkansas statute which imposed a tax on every gallon in excess of twenty brought into the state for use as fuel by any motor vehicle was invalidated by the Supreme Court on the ground that there was no reasonable relationship between this tax and the use of the road system.¹⁹ A tax upon the privilege of carrying on a business exclusively interstate in character violates the commerce clause no matter how fairly it is apportioned to the amount of business done within the state.²⁰

Effect of Interstate Trade Barriers. An interstate trade barrier may operate to exclude certain out-of-state goods and services entirely, thus effectively substituting state determination for the choice of the consumer, or it may materially increase the cost of the product to the consumer. For commodities with a high value compared to bulk and weight, transportation charges would constitute a relatively insignificant part of the total price. For goods with a low value compared to bulk and weight, the opposite would be true. For example, in the movement of fluid milk from Wisconsin to New York City, it is estimated that transportation charges would constitute 35 percent of the total cost of the product to the consumer, and that a 10 percent increase in transportation charges would add one-half cent to the retail price of a quart of milk.²¹ One of the pitfalls here is to approach this problem with data on the average cost of transporting several varied items a given distance; it is quite obvious that average transportation charges would be misleading. This study is predicated on the premise that the cost of transportation may be an important factor in the price that is eventually charged the consumer for goods and services.

Role of the Special Interest Groups. Primary responsibility for the erection of interstate trade barriers rests, of course, with the state legislators. There are, however, some extenuating circumstances. In their desire to discover and tap new sources of revenue to support the ever-increasing obligations of the state government, the lawmakers may be induced to sanction a new revenue measure without first giving adequate consideration to the effect that these proposals

¹⁶ *Napier v. Atlantic Coast Line Railroad Company* 272 US 605 (1928); *Southern Pacific Company v. Arizona*, 65 S. Ct. 1515, 325 US 761 (1945).

¹⁷ *Morgan v. Virginia*, 66 S. Ct. 1050, 328 US 373 (1946).

¹⁸ See *State v. Johnson*, 229 NC 701, 51 SE (2d) 186 (1949).

¹⁹ *McCarroll v. Dixie Greyhound Lines*, 309 US 176 (1939).

²⁰ *Spector Motor Service v. O'Connor*, 340 US 602, 71 S. Ct. 508 (1951).

²¹ Agricultural Marketing Service, Department of Agriculture, *Regulations Affecting the Movement and Merchandising of Milk* (Washington: Government Printing Office, 1955), p. 81.

might have on the interstate flow of goods and services. In fields other than taxation, the lawmakers may be under considerable pressure to approve a measure calculated to confer benefits on in-state commerce and industry and impose restrictions on out-of-state goods and services. The initiative for the enactment of trade-barrier legislation comes, of course, from special interest groups.

II. TAXATION

Highway User Taxes. Most units of government proceed on the principles that modern highway facilities are provided primarily for motor vehicular traffic, and that it is proper for the owner of the motor vehicle to pay, in the form of special levies and taxes, for the construction and maintenance of such facilities. The concept that the user of special facilities provided by government should pay for the same, endorsed by no less an authority than Professor Adam Smith, has had wide acceptance both here and abroad long before the advent of the automobile. Gasoline and other fuel taxes account for approximately 64 percent of the total highway user taxes collected. Motor vehicle registration fees constitute about 34 percent of the total. Special taxes, applicable only to commercial motor carriers, make up the remaining 2 percent.²² Neither ad valorem property taxes on units of rolling equipment, nor sales or excise levies on supplies and equipment, are considered highway user taxes; while the former are usually collected by the unit of government (state or local) in which the owner is domiciled, the decision of the Supreme Court in the *Branniff Airways* case²³ appears to open the way for the collection of a nondiscriminatory ad valorem property tax by any state in which the equipment is used.

Third Structure Taxes. In addition to highway user taxes applicable to all motor vehicles, states with the exception of Delaware, Maryland and Vermont impose one or more additional fees or taxes on commercial motor vehicles.

... in order to offset the public aid which the owners of such vehicles would otherwise enjoy to their advantage over competing carriers. Without the appropriate taxation of motor vehicles, traffic could otherwise not be distributed in accordance with their relative economy and fitness.²⁴

These exactions, which usually take the form of ton-mile taxes, mileage taxes, or weight and capacity taxes, are referred to by the industry, which vigorously opposes the imposition of the same, as "third structure" taxes. Lack of uniformity in the imposition of such taxes may be illustrated by a brief reference to the pattern of these taxes in the southeast. North Carolina collects a gross receipts tax; Virginia exacted such a tax until last year. South Carolina levies

²² *State Taxation of Interstate Trucking and the Reciprocity Problem* (Washington: Government Printing Office, 1956), p. 6. See also E. M. Cope and R. M. Meadows, "Road User and Property Taxes on Selected Motor Vehicles," 1953, *Public Roads*, Vol. 27, No. 7, (April, 1953); E. M. Cope, and others, *Estimate of Highway User Taxes Paid by Vehicles in Different type and Weight Groups* (Public Roads (June, 1954)).

²³ *Branniff Airways v. Nebraska State Board of Equalization and Assessment*, 74 S. Ct. 757, 347 US 590 (1954).

²⁴ *State Taxation of Interstate Trucking and the Reciprocity Problem*, p. 6.

a mileage tax on regular route operations; both Georgia and Virginia have experimented with, and abandoned, this form of taxation. These levies make up only 2 per cent of the total amount of highway user taxes collected by all the states from motor vehicles of all classes. To the motor carrier industry as a whole, the lack of uniformity among the several states in taxes schedule applicable to commercial motor carriers is probably more significant than the amount of the tax itself. Many people are convinced that there is some merit in the proposal of the National Association of Tax Administrators to consolidate all fees and taxes into a single charge, expressed as a rate per mile.²⁵ Because construction and maintenance costs differ from state to state, the rate per mile would vary from state to state.

Allocation of Costs. Since all states levy and collect highway user taxes, it is generally assumed that each state has a precise and exact formula to be used in allocating the cost of construction and maintenance among the several and varied users of highway facilities. Such, unfortunately, is not the case. The Committee for Economic Development points out that.²⁶

... there is no completely fair and efficient way of charging highway users for their use of the roads. A precise allocation of highway costs to highway users would require the equivalent of a toll both on every road and street in the land. Such precision is impossible, of course; yet, the less precise the allocation is, the more inequities there are in levying charges on highway users. . . .

The position is taken that the heavy unit of equipment should make a larger contribution in the form of highway user taxes toward the construction and maintenance of a highway than a passenger automobile on the premise that the heavy unit of equipment is responsible for a greater share of construction and maintenance costs than in the passenger automobile—even the commercial trucking industry freely concedes the fairness of this position by advocating incremental method of allocating costs.²⁷ Fuel taxes constitute the major source of highway user taxes; governments operate on the assumption that construction and maintenance costs, and fuel consumption, go hand in hand. There is little correlation, however, between the amount of fuel consumed (and, hence, the amount of highway user taxes paid) and the size-and-weight of the unit of equipment; a 50,000 pound unit of equipment, with a highly efficient engine, might not consume any more fuel than a 20,000 pound unit of equipment with less efficient power system, and yet both would pay the same amount—or approximately the same amount—in a highway user taxes. Under given circumstances, on the other hand, a light passenger automobile might pay four times as much highway user taxes per pound as a commercial vehicle.

For more than a quarter of a century the commercial motor carrier industry

²⁵ See *Practical Tax Equity for Interstate Vehicles* (Washington: National Association of Tax Administrators, 1954).

²⁶ *Modernizing the Nation's Highways* (New York: Committee for Economic Development, 1956), p. 10.

²⁷ See *Motor Vehicle Taxation in North Carolina* (Raleigh: N. C. Motor Carriers Association, Inc., 1954), p. 26 ff.

and the railroads have been deadlocked in debate on the issue: Do commercial motor vehicles pay an equitable share of the cost of construction and maintenance of highway facilities? The debate has produced considerably more heat than light. Both the railroads and the motor carriers have sponsored studies in an attempt to convince the public of the merit of this respective positions.²⁸ In general, such studies are not entirely free from bias. A congressional committee has observed.²⁹

In the motor carrier field, not only is the contribution of highway users in proportion to their usage a matter of argument, but any attempt to establish an appropriate proportion in that contribution arouses immediate controversy. It must be admitted, too, that reliable statistics with respect to motor carriers are hard to find. This is due only in part to the reluctance of the industry to supply them. Generally speaking, the vastness of the industry and the less-than-adequate nature of Government regulation of it simply preclude the collation of figures that represent more than what may be generously termed informed estimates.

That there exists a need for more objective research in the area is generally conceded. A step in the right direction is the commission appointed by the governor of Virginia in 1953.³⁰ There is little hope, however, of resolving the issue until there is some general acceptance of a highway finance theory—the increment theory, the theory of ability to pay, the cost and value of the service, and the portion that should be attributed to national defense.

Diversion of Highway Funds. It is rather general practice, most usually dating from the Great Depression, for states to allocate a portion of the proceeds of highway user taxes to purposes other than the construction and maintenance of roads and bridges.³¹ The amount of diversion varies from state to state, and from year to year. Available data indicate that for the nation as a whole 6.1 percent of state highway user taxes are diverted to non-highway purposes; in the southeast, the spread runs from 0.2 percent for Virginia to 17.1 percent for Georgia.³² In North Carolina, it has been estimated that the Highway Commission pays \$35,000 each day for the upkeep of 7,000 prisoners, and that this is equivalent to one cent of the 7 cent state gasoline tax.³³ The extent of the diversion here in terms of dollars depends on the amount of prison labor used in a given period by the Commission on highway projects and the efficiency

²⁸ See *Highway Motor Transportation* (Washington: Association of American Railroads, 1945); *Highways: Development-Use-Financing* (Washington: Association of American Railroads, 1955); *The Case for the Trucking Industry* (Washington: American Trucking Associations, 1950); *Testing the Equity of Virginia's Motor Vehicle Tax Structure* (Richmond: The Virginia Highway Users Association, June, 1953).

²⁹ Senate Committee on Interstate and Foreign Commerce, *Domestic Land and Water Transportation* (Washington: Government Printing Office, 1951), p. 38.

³⁰ *Report of the Commission to Study Matters Pertaining to Highways to Governor and General Assembly of Virginia* (Richmond: 1952).

³¹ *Modernizing The Nation's Highways*, p. 11.

³² See Charles A. Taff, *Commercial Motor Transportation* (Chicago: Richard D. Irwin, 1951), pp. 33-36.

³³ Greensboro, (N. C.) *Daily News*, November 12, 1957, p. 1.

of such labor. Another form of diversion relates to the efficiency of the state agency charged with the responsibility of constructing and maintaining highway facilities. In the southeast, an efficient, nonpolitical highway department may be the exception and not the rule. It is submitted that any diversion of highway user taxes collected from interstate commercial motor carriers may constitute an unreasonable burden on interstate commerce in that the out-of-state operator is not only paying what the state exacts for the use of the highway facilities—regardless of whether or not the amount he pays reimburses the state for this use—but he is helping to support the other activities of the state government.

Regulatory Taxes. The taxing power may be, and often is, employed with the sanction of the courts³⁴ as a regulatory device: to "protect" or "equalize" competition, or to encourage or discourage the use of certain goods or services. Regulatory taxes help to distort the competitive picture in transportation as well as in other areas of the economy. The public debate on this issue dates almost from the time the memory of man runneth not to the contrary. Recently-expressed views are of interest. Professor Merrill J. Roberts suggests:³⁵

... the feasibility of permitting the market more voice in supplying answers to difficult questions of transport control. Particularly if subsidy were eliminated greater price competition would provide authoritative traffic allocations. It appears that no legitimate interest would be impaired.

Less control and more competition was recommended by the Cabinet Committee appointed by President Eisenhower to review national transportation policy.³⁶ Professor Harold Koontz favors "an environment conducive to fair and open competition."³⁷ On the other hand, Professor Lee J. Melton, Jr., holds that "no adequate solution will be found within the competitive framework."³⁸ Regulatory taxes which restrict interstate movements of goods and services constitute a significant trade barrier.

Multiple Collection of Fuel Taxes. The interstate commercial motor carrier, in many instances, is required to pay successive taxes on the same fuel. The observation of Mr. Justice Jackson in the *Miller* case³⁹ that "visible territorial boundaries do not always establish the limits of a state's taxing power or jurisdiction" is applicable here. For example, in Georgia, out-of-state vehicles of more than two axles must use Georgia-taxed gasoline commensurate with the miles actually traveled in that state, or pay a Georgia tax on fuel purchased

³⁴ See *Sanzinsky v. United States*, 300 US 506 (1937).

³⁵ "Transport Regulation and the Railroad Problem," *The Southern Economic Journal*, Vol. XXIII, No. 3, (January 1957), p. 271.

³⁶ *Revision of Transportation Policy*, A report to the President, prepared by the Presidential Advisory Committee on Transport Policy and Organization (Washington, D. C., April, 1955).

³⁷ *Public Control of Economic Enterprises* (New York: McGraw-Hill, 1956), p. 196.

³⁸ "An Integrated Approach to the Transportation Problem," *The Southern Economic Journal*, Vol. XXIII, No. 4 (April 1957), p. 399.

³⁹ *Miller Brothers Co. v. State of Maryland*, 347 US 340, 74 S. Ct. 535 (1954).

in another state and used in Georgia; owners are required to register each vehicle for this purpose and to make a quarterly fuel report. The South Carolina statute is similar, with the exception that it applies to all trucks with two or more axles. The same rule applies in Virginia, with the exception that motor carriers of property must pay an additional two-cents per gallon fuel tax when making the report.⁴⁰ North Carolina requires registration with the Commissioner of Revenue, at a cost of one dollar per vehicle; quarterly reports on the number of miles traveled; and the payment of the North Carolina tax on fuel purchased in another state and used in North Carolina.⁴¹ The principle of reciprocity does not apply to fuel tax payments. For all practical purposes, a state that attempts to collect a tax on gasoline purchased in another state, must rely on the records and reports of the carrier. It is submitted that the multiple collection of taxes on the same fuel, and the required record-keeping and report-making, work to the disadvantage of the interstate commercial motor carrier.

Registration Fees. A listing of some of the registration fees and other exactions applicable to interstate commercial motor carriers may serve to pinpoint the problem.⁴² In Georgia, interstate carriers must register each vehicle with the Public Service Commission, file evidence of proper insurance, and secure a PSC tag, at the cost of one dollar annually, for each vehicle operated in the state; if the motor carrier is domiciled in a state that imposes a mileage or ton-mile tax on Georgia trucks, it is required to purchase a special Georgia plate at the cost of ten dollars for each vehicle and to pay a fee of ten dollars per round trip into or through Georgia. In South Carolina, regular route carriers are subject to a mileage tax of 1/10 of a cent per ton mile, exclusive of the vehicle weight, although South Carolina has not strictly enforced this provision.⁴³ Virginia requires carriers to secure an identification plate for each truck with three or more axles and for each tractor; the plates cost one dollar. In North Carolina, carriers moving from one point to another in the state, even though such transportation is a link in an interstate movement, are required to secure North Carolina license plates. The importance of registration and miscellaneous fees to commercial motor carriers is indicated by the following comparison: In North Carolina such fees average \$11.09 per passenger car; \$23.90 for farm trucks; and \$415 for each commercial vehicle.⁴⁴ While trucks account for only 18.6 percent of the total number of vehicles registered in North Carolina, they pay more than fifty percent of the total registration and miscellaneous fees. The complexity and lack of uniformity of the registration and miscellaneous fee schedules, which constitute something of a barrier to interstate movements, may be of more concern to motor carriers than the total amount of money involved.

⁴⁰ Code of Va. (1950) Section 46-188 ff.

⁴¹ Session Laws of North Carolina, 1955, Chapter 822.

⁴² See *Digest of State Laws Pertaining to the Regulation and Taxation of Motor Vehicles* (Washington: Association of American Railroads, 1952), p. 37 ff.

⁴³ See *State Taxation of Interstate Trucking and the Reciprocity Problem*, p. 14 ff.

⁴⁴ *Motor Vehicle Taxation in North Carolina*, p. 13.

Reciprocity. If every interstate motor carrier were subject to all the registration fees and miscellaneous taxes exacted from an in-state operator in every state in which he carried on business, the total amount of these fees and taxes would be such as to discourage any motor carrier from engaging in interstate operations. If this situation obtained, shipments from one part of the country to another without the expense of unloading, warehousing, and reloading at state borders would not be possible. That these additional operations would materially increase the cost of transportation by motor carrier, and result in the diversion of business to other forms of transportation, is generally conceded. The concept of reciprocity, stated simply, is that X State will accord to the motor vehicles of Y State the same treatment that Y State accords to the motor vehicles from X State. This arrangement is usually formalized as an agreement or contract between two or more states; it is not a compact within the meaning of the Constitution⁴⁵ and, therefore, does not require the consent of Congress. State courts have upheld the validity of such agreements.⁴⁶ As a rule, only registration fees and miscellaneous taxes (which might or might not include gross receipts taxes) are covered by such agreements. North Carolina has entered into reciprocity agreements with every state save one. An outstanding, if not typical, reciprocal agreement is the one that ten southern states entered into in 1949.⁴⁷ Variation in the level of motor vehicle registration fees and the differences in the method of assessing these fees (for example, most states register and license both the tractor and the trailer while a few states place all the fees on the power unit) is the greatest obstacle to the unqualified acceptance of the principle of reciprocity according to Mr. Walter R. McDonald of the Georgia Public Service Commission.⁴⁸ If the enactment of so-called "third structure" taxes becomes widespread, existing reciprocal agreements will require renegotiation or the principle of reciprocity will have a very limited application. As to be expected, the commercial motor carrier industry is a strong advocate of reciprocity while the railroads contend that such agreements are unfair to in-state operators of motor vehicles.⁴⁹ From the viewpoint of the commercial motor carrier, the limited acceptance of the principle of reciprocity, although it is a step in the right direction, has not solved the problem of the lack of uniformity in registration fees and other exactions.

III. SIZE-AND-WEIGHT LIMITATIONS

Authority and Policy. The Federal courts have recognized the right of a state, under its police power, to adopt by legislation reasonable rules and regulations for the use of highway facilities even though these rules and regu-

⁴⁵ Article I, Section 10, Clause 3.

⁴⁶ See *Atlantic and Danville Railway Company v. Hooker*, 191 Va. 496, 74 SE (2d) 270 (1953) and the case cited therein.

⁴⁷ For the text of this agreement, see *Taxation of Interstate Trucks* (Washington: American Trucking Association, 1954), pp. 43-48.

⁴⁸ Letter to the writer, dated November 1, 1956.

⁴⁹ See *State Taxation of Interstate Trucking and Reciprocity Problems*, pp. 21-27; *What is Reciprocity?* (Washington: Association of American Railroads, 1954).

lations, in a given case, might impose a burden on interstate movements. The fact that the Federal government makes a major financial contribution toward the construction of highways, and regulates commercial motor carriers in interstate commerce, has little bearing on the authority of the state to enact size-and-weight limitations. The Supreme Court held, in the *Barnwell* case,⁵⁰ that "a state may impose nondiscriminatory restrictions with respect to the character of motor vehicles moving in interstate commerce as a safety measure and as a means of securing the economical use of its highways." With the constitutional question firmly resolved in favor of state power, although this has been limited by a recent ruling of the Court that a state may not suspend the right of an interstate motor carrier to use state highways because of repeated violations of state highways regulations,⁵¹ our inquiry is directed at the lack of uniformity in the size-and-weight restrictions adopted by the several states; this lack of uniformity—a matter of policy rather than a constitutional question—may constitute an important barrier to the movement of goods and services across state lines.

Lack of uniformity may be illustrated by examining the problems encountered by a commercial motor carrier in moving a loaded unit of equipment from Atlanta, Georgia, to Richmond, Virginia, via Greenville, South Carolina, and Charlotte, North Carolina.⁵² Georgia law permits a height of thirteen feet, six inches; however a unit of equipment of that height could not enter into any state whose borders coincide with those of Georgia with one exception: if the unit were a car transport, it could enter North Carolina. South Carolina, North Carolina, and Virginia enforce a height limitation of twelve feet, six inches, with the exception noted. Georgia allows a maximum length of forty-eight feet; North Carolina, South Carolina, and Virginia, on the other hand, each allow fifty feet. The maximum axle-load in pounds in Georgia is 20,400; in South Carolina, 20,000 plus a ten percent tolerance; and in North Carolina and Virginia, 18,000. The highest possible gross weight in pounds in Georgia is 63,280; in South Carolina, 68,350; in North Carolina, 56,000 plus a five percent tolerance; and in Virginia, 56,800. Of the four states selected to illustrate this problem, each has a different weight limitation. A unit of equipment loaded to the maximum allowable gross weight in South Carolina could not leave the state in any direction.

Proposals for Uniformity. That lack of uniformity in state size-and-weight legislation constitutes something of a burden on interstate movement is recognized by the American Association of State Highway Officials. To cope with this problem, this organization—which is interested in protecting roads against excessive wear—recommends the adoption by the several states of a uniform code covering maximum dimensions, weights and speed.⁵³ The Senate Com-

⁵⁰ *South Carolina State Highway Department v. Barnwell Brothers, Inc.* 303 US 177, 58 S. Ct. 510 (1938). See also, *Maurer v. Hamilton*, 309 US 598, 60 S. Ct. 726, (1940).

⁵¹ *Castle v. Hayes Freight Lines, Inc.* 348 US 61, 75 S. Ct. 191 (1955).

⁵² See *Summary of Size and Weight Limits and Reciprocity Authority* (Washington: American Trucking Associations, 1957).

⁵³ See *Highways: Development-Use-Financing*, pp. 86-97.

mittee on Interstate and Foreign Commerce proposed that "standard axle-load limits be fixed by Congress, as a prerequisite to the granting of Federal funds for highway aid."⁵⁴ The Interstate Commerce Commission contends that Congress has authority to legislate size-and-weight restrictions for commercial motor carriers engaged in interstate movements.⁵⁵ The ICC conclusion was quoted, apparently with approval, by a publication of the trucking industry,⁵⁶ although many leaders in the industry are outspoken in their opposition to any extension of the sphere of Federal control. If the matter is to be left up to the states: In order to conform with AASHO standards, all southeastern states would have to revise upward the overall length and allowable weight for all combinations; it could probably be established that few highways in the southeast, other than those that form a link in the interstate system, could accommodate units with an overall length of 60 feet and a weight of 73,280 pounds. While it is freely conceded that uniformity is desirable, and that lack of uniformity interferes with the flow of goods and services, it is submitted that standardization at the suggested AASHO level is not practical at the present time.

IV. ADMINISTRATION⁵⁷

Regulation by Commission. Authority to regulate commercial motor carriers is usually vested in an independent regulatory commission—the "independence" of which may be more apparent than real.⁵⁸ The commission may be provided for in the state constitution (as in Georgia), or it may be a creature of the state legislature (as in North Carolina). The commission device results in what Professor George H. Steiner has referred to as a "sort of microgovernment".⁵⁹ Commissions are usually composed of three (as in Virginia) or five (as in Georgia and North Carolina) members, either elected by the voters (as in Georgia) or appointed by the governor (as in North Carolina), with or without the consent of the legislators. Terms of the members usually run from two to six years, the terms are staggered, and commissioners are eligible for reappointment. Because of the absence of tenure and the low level of compensation, among other things, the most able public servants are not always attracted to regulatory commissions. Most state commissions are under-staffed, both qualitatively and quantitatively. Regulatory agencies may not be in a position to completely disregard political considerations.

Division of Authority. No state has an agency whose sole, or even principal,

⁵⁴ Senate Committee on Interstate and Foreign Commerce, *Domestic Land and Water Transportation*, p. 45.

⁵⁵ Interstate Commerce Commission, *Federal Regulation of the Size and Weight of Motor Vehicles* (Washington: Government Printing Office, 1941), pp. 21-26.

⁵⁶ *The Case for the Trucking Industry*, pp. 2-3 of Part II, "The Railroad Charge."

⁵⁷ See Frank Bane, "Administrative Marketing Barriers," *Law and Contemporary Problems*, Vol. VIII, No. 2 (Spring 1941), pp. 376-381.

⁵⁸ See James W. Fesler, *The Independence of State Regulatory Commissions* (Chicago: Public Administration Service, 1942).

⁵⁹ *Government's Role in Economic Life* (New York: McGraw-Hill, 1953), p. 559.

function is that of regulating commercial motor carriers. In North Carolina, the Utilities Commission is responsible for the regulation of electric power, telephones, railroads, pipelines, canals, and a host of other things, as well as commercial motor carriers;⁶⁰ such broad and varied responsibility vitiates the concept that a commission is a court of experts.⁶¹ This pattern is followed in most states. Furthermore, sole responsibility for the regulation of commercial motor carriers is not vested exclusively in any one agency. The North Carolina Utilities Commission shares regulatory responsibility with the Commissioner of Motor Vehicles (registration fees, license plates, reciprocity agreements); the Commissioner of Revenue (collection of fuel taxes, quarterly reports on mileage); and the Highway and Public Works Commission (designation of truck routes, special weight limitations on certain bridges and roads). Municipal ordinances place another burden on commercial motor vehicles, even those in interstate commerce, in the form of truck routes, parking restrictions, loading zones, taxes, and fees.

Regulation versus Promotion. In addition to its regulatory responsibility, the North Carolina Utilities Commission is under a statutory mandate, "... to promote, in the interest of the public, the inherent advantages of highway transportation; to promote adequate, economical and efficient service to all the communities of the State by motor carriers . . ."⁶² Similar provisions are found in the statutes of other states. If a state regulatory agency follows the statutory mandate, it might be inclined to favor in-state motor carriers at the expense of out-of-state operators. The statutory provision is objectionable, also, on the ground that it would be difficult, if not impossible, for any agency to perform the dual functions of promotion and regulation at one and the same time.

Other Regulatory Problems. The reasonable and realistic enforcement of the many regulatory enactments of the several states is made more difficult by conflicting statutory provisions, variation from state to state in administrative practices, the large number of carriers that are exempt from Federal and state regulation, the general acceptance of the principle of the "grandfather" clause, the significant variation in terminology in the Federal and state statutes, and the fine distinctions drawn by the courts in the interpretation of legislative enactments. Administrative conflicts and frustrations tend to place something of a burden on interstate movements.

V. CONCLUSIONS

1. Conflicts between Federal and state authority—commerce clause versus police and taxing power—have resulted in more, and not less, restrictions on the interstate movement of goods and services.

2. Trade barriers are primarily objectionable because they either serve to

⁶⁰ *General Statutes of North Carolina*, Chapter 62.

⁶¹ See F. W. Hanft, "Utilities Commission as Expert Courts," *N. C. Law Review*, Vol. 15, No. 1, pp. 12-40 (December 1936).

⁶² *G. S. N. C.* 62-1215.

increase the price of, or close the channels of interstate commerce to, certain goods and services; this results in the substitution of state determination for the choice of the consumer.

3. Special interest groups, motivated by economic self-interest and not the public interest, advocate the use of state police and taxing power to protect local commerce and industry from out-of-state competition, or to favor one type of business activity over another. Such groups—regulated interests and others—have played an important role in the development of public policy.

4. Each class or type of motor vehicle—private as well as commercial—should pay its proportionate share of the cost of construction and maintenance of highway facilities; this concept is difficult to implement because of the absence of a precise and exact formula for the allocation of highway costs among the many and varied users of the same. Uniformity in tax and fee schedules—even though the amounts collected from the motor carrier varies from state to state—would facilitate interstate movements.

5. Regulatory taxes, as distinguished from the normal highway user taxes, tend to distort the competitive picture, and to impede the flow of goods and services from one state to another. More competition between various forms of transportation, and less government interference in the market place in the form of regulatory taxes, would be in the public interest.

6. The acceptance of the principle of reciprocity—limited as it is—has greatly facilitated the interstate movement of commercial motor carriers. An extension of reciprocal agreements to include all registration fees and miscellaneous taxes (but not normal highway user taxes), and possibly other economic regulations, might be in the public interest.

7. Size-and-weight regulations which vary from state to state, ostensibly because of the lack of uniformity in highway capabilities, restrict the interstate movements of commercial motor carriers. An individual state has the unquestionable right to adopt such rules and regulations as may be reasonably necessary to prevent excessive damage to highway facilities and to protect other users of the same. While uniformity in such regulations is most desirable, highway facilities in the southeastern states will not now permit the adoption of the standards recommended by the AASHO.

8. The complex institutional arrangements at the state level for the enforcement of the public will in this area—characterized by division and diffusion of authority—do not facilitate the interstate movement of goods and services.

9. One alternative to the present dual—Federal and state—regulation of the interstate movements of commercial motor carriers is to increase the area of Federal, at the expense of, state control. The substitution of Federal control for the current system of dual control, with all of its imperfections, might not be in the public interest. Federal regulatory agencies have yet to demonstrate any unusual competence in resolving in the public interest complex regulatory problems.

FLEXIBILITY IN MANAGEMENT—A CONCEPT IN ECONOMIC DECISION-MAKING

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Much of the theory of management has developed into groups of generalizations which are open to criticism on either of two counts. Either they are mere truisms offering little insight into essentials, or they refer to specific techniques without sufficient qualifying assumptions to make them generally valid. Often they run in pairs¹ calling for contradictory lines of action. Managerial principles are conjugate² in the sense that they appear as sets which are mutually contradictory or inconsistent and true only under certain specific conditions. One of the problems of management is to recognize the contradictory nature of the concepts and to identify conditions under which they are valid.

Flexibility is one of the concepts that often conflicts with elaborately developed generalizations and receives too little attention in situations which demand its emphasis.³ The objectives of this paper are (1) to state explicitly the meaning and importance of the concept of flexibility, (2) to point out the important factors to be considered in determining optimum flexibility for a given firm, and (3) to analyze five applications of flexibility as considered by specialists of a firm.

MEANING AND IMPORTANCE

Flexibility, in its general sense, refers to the response of one or more variables to change in one or more related variables. In management, it means the responsiveness of managerial plans and actions to changes in the environment. It is an attribute which enables management to respond to new conditions and problems. Flexibility provides resiliency of policies—it does not eliminate policy. In many cases it relates to the ability to avoid making irrevocable decisions prematurely. Antonyms of flexibility, in the general sense, include rigidity, unchangeability, fixity, and unalterableness. In management, specialization, standardization, and bureaucracy tend to lead to lesser degrees of flexibility.⁴

The place of flexibility as a fundamental concept of business management is clouded partly by the terminology used by functional specialists in denoting its meaning. This difficulty in communication has obstructed an integrated view-

¹ H. A. Simon has expanded this criticism of current statements of managerial principles in his *Administrative Behavior* (New York: Macmillan Company, 1957), pp. 20-39.

² A. Lawrence Lowell develops this idea of conjugate principles in his *Conflict of Principle* (Cambridge, Mass.: Harvard University Press, 1932) pp. 11-34.

³ Two discussions of flexibility in the literature are found in L. Urwick, *The Elements of Administration* (New York: Harper & Bros., 1944) pp. 30-31 and Ralph C. Davis, *The Fundamentals of Top Management* (New York: Harper & Bros., 1951) pp. 508-19.

⁴ For a conflicting view of the effects of bureaucracy in two cases in government see P. M. Blau, *The Dynamics of Bureaucracy* (Chicago: University of Chicago Press, 1955).

point of flexibility by the firm as a whole. The financial manager talks in terms of liquidity of assets; the personnel manager talks in terms of versatility and mobility of people; the marketing manager speaks of the ability to shift a sales program to meet changing consumer desires; the production manager thinks in terms of general-purpose machines, advantages of job-lot production, and decreasing change-over costs; the organization analyst considers the effects of informal groups, "learning the ropes" of a job, and the "grapevine" in communications. All are thinking about the fundamental idea of flexibility. In each of these functional areas, flexibility is a matter of degree. The proper degree of flexibility of the firm as a well-coordinated whole is also an important, but often neglected, problem. The top management of a given firm must determine the unique optimum degree of flexibility needed in order that the functional specialists can visualize more clearly the flexibility needs within their domain as they relate to the entire firm.

Economists have devoted considerable attention to the place of flexibility in business planning. They have studied the horizons faced by the producer who has alternatives of divisible or indivisible plants, adaptable or unadaptable variable factors of production, and flexible use of technology to produce a given amount of a product under conditions of both certainty and uncertainty.⁵ One has stressed this analysis in dynamic planning with a realistic recognition of the uncertainty surrounding a manager's decisions.⁶ Another has considered the cost pictures of managers who face alternatives of single-purpose and dual-purpose equipment.⁷ In general, there appears to be agreement that some degree of flexibility is desirable as a way to handle uncertainty.

Managers of small firms typically have recognized the advantages of emphasizing a high degree of flexibility. Administrators in large firms have given more attention in recent years to the concept. The result has been the development of policies of decentralization of authority, divisionalization, diversification, and job enlargement. In spite of the trend toward increased application of conflicting concepts of specialization, standardization, and bureaucracy, top managers apparently are interested in the concept of flexibility. Often their choices are mutually exclusive and require critical analysis prior to selection.

FACTORS IN DETERMINING OPTIMUM FLEXIBILITY

Many principles of organization and management are stated as absolutes without regard to the economics of the administrative process. Economic theory offers analytical processes by which the manager can determine the optimum allocation of physical resources. These processes can also help him estimate the optimum degree to which he will apply conflicting managerial concepts. In this manner, economic theory can be made still more useful and managerial theory more rigorous.

⁵ See George Stigler, "Production and Distribution in the Short Run," *Journal of Political Economy*, June 1939, pp. 305-27.

⁶ See A. G. Hart, *Anticipations, Uncertainty, and Dynamic Planning* (Chicago: University of Chicago Press, 1940).

⁷ See E. O. Heady, *Economics of Agricultural Production and Resource Use* (New York: Prentice-Hall, 1952).

Flexibility should be increased up to the point at which the incremental returns from an increased degree are equal to the incremental costs of achieving that degree.⁸ Quantitative measurement of the incremental returns may be difficult in practice because value judgments may be involved. However, stochastic techniques will prove to be valuable whenever uncertainty is a major factor. Incremental costs of flexibility, on the other hand, are subject to more precise determination. Cost curves for various alternative degrees of flexibility can be compared and an estimate of minimization reached. Costs of flexibility, in any case, should be considered as those alternatives which are sacrificed in gaining flexibility.

Six factors affect both the incremental returns and the cost of each application of flexibility. (1) The size of a firm determines the ease with which flexibility can be achieved and its relative importance in the formulation of policy. (2) The rate of growth of the firm and the industry involves changes which, by their very nature, demand adjustment in plans and actions. (3) Uncertainty of the future, the degree to which events can be predicted, and the willingness of management to assume risks are fundamental considerations. (4) Even when the future is predictable, expectations of change may require varying degrees of flexibility in plans. (5) Personal characteristics and philosophies of chief executives differ and, as a result, have a definite effect on tailoring the flexibility concept in a particular situation. (6) The environmental and institutional setting should be taken into account in the final determination of optimum flexibility.

Top management should develop an integrated policy pertaining to flexibility. This policy should be based on a recognition of the complementary nature of applications by functional departments. For instance, the advisability of flexible production techniques may depend on a high degree of flexibility in marketing; both may depend upon the nature of the organizational structure and communication system. In some cases one application of flexibility may be substitutable for another. For example, increased flexibility in production may decrease the need for marketing flexibility or vice versa.

FLEXIBILITY AS APPLIED BY FUNCTIONAL SPECIALISTS OF A FIRM

Five applications of flexibility recognized by functional specialists will illustrate a qualitative analysis for determining desirable degrees of flexibility. Empirical research provided facts for this classification and probably further research will extend it. While it is important for analytical reasons to study

⁸ Marginal analysis can be helpful here if the manager can identify certain types of flexibility and equate their various ratios of marginal value productivity and costs. He can use the familiar relationship employed by economists in resource allocations:

$$\frac{MVP_a}{P_a} = \frac{MVP_b}{P_b} = \frac{MVP_c}{P_c} = \frac{MVP_d}{P_d} \dots = \frac{MVP_n}{P_n}$$

Where MVP_a is the Marginal Value Productivity of one type of flexibility and P_a is the price (cost) that must be paid to obtain this type of flexibility, MVP_b is the Marginal Value Productivity of a second type of flexibility and P_b is the cost of obtaining it, and so on for the various types of flexibility.

independently the means of attaining flexibility in each of these five phases, the interdependent nature of these applications demands an integrated approach by top management.

Technological Flexibility: This attribute refers to the physical and mechanical ability to adjust manufacturing processes and means of transportation to the demands of consumers. The production specialist considers this concept in numerous decisions. Advantages of its application may be purchased at the cost of more expensive equipment or greater handling per unit of output. Plant layouts which require changing periodically must be planned with flexibility in mind. General-purpose machines may be used to avoid the risks of obsolescence of special-purpose equipment and to preserve the ability to produce a variety of products. A number of smaller identical machines may be used instead of a single large machine in order to allow for divisibility of the plant into units which can be operated independently. If flexible production is too expensive, inventories may be adjusted to compensate for seasonal and cyclical fluctuations in demand.

Alternative transportation facilities may permit changes in sources of raw materials or in destinations of finished goods. Mobile materials-handling devices may often be chosen even though fixed-track devices will move a larger volume at less cost per unit. Trucks may be used between plants and distributors in place of railroads and pipe lines. A communication network may be selected on the basis of its ability to transmit small amounts of different kinds of significant information rather than on the basis of the volume of messages it will carry. Rapid access to information often may be more important than precision or volume of data.

Much of the technological progress in production in the last half century has first resulted in rigid-cycle operations and processes. After low-cost, high volume production has been achieved, changes have been introduced to make operations more flexible. Old equipment made technically obsolete by a new development often has retained economic advantages because of its superior technological flexibility. In times of rapid, radical innovations, a costly change in capital equipment is followed by a still better method of volume production. If competing firms widely adopt an innovation, a firm continuing to use old equipment often finds that its use in producing specialty products will remain economical because the new machines are not suited to small-volume, high-margin business. For example, the introduction thirty years ago of continuous processing in the refining branch of the oil industry drastically reduced the cost of producing gasoline and other volume products. Yet, operators of the old "batch" equipment could economically produce many of the small-volume, non-standard products. By maintaining a perspective of the advantages of technological flexibility, smaller companies took advantage of these interstices.

The present emphasis on automated operations presents challenges and opportunities to managements which comprehend the importance of technological flexibility. To those who lead in the use of automatic controls and computers, the problem is to develop new equipment which will remain flexible. For example,

the programming of computers for a large variety of operations can be made flexible through combinations of many standard or "canned" programs. Also, automatic control systems can be made more flexible with a number of interchangeable small units. Managements using older methods of production can emphasize the production of those products which cannot be handled efficiently by the more automated systems. Emphasis upon the flexibility of equipment of older design will postpone the assumption of risks of investment in newer processes. Even if a new plant is built for volume production, retention of the older, more flexible plants in standby condition may offer profitable opportunities for producing non-standard products or additional standard products during periods of peak production.

A production manager is often faced with the alternative of using techniques which enable him to produce a small quantity for quick delivery while the market is strong rather than planning setups to achieve lower costs per unit at a later time. Temporary additions of shifts of workers and buying rather than making parts often enable him to maximize production in the short run. Minimizing long-term commitments in purchasing, labor contracts, and indirect production costs make retrenchment easier in times of contraction.

The functional production specialist must decide whether these means of securing technological flexibility yield sufficient returns to offset the costs of not gaining full advantage of such conflicting concepts as specialization. In this decision he should be provided with a guide by the chief executive which shows him the over-all relationships among other applications of flexibility in the firm as a whole.

Marketing Flexibility: This second application of flexibility refers to the ability to make any changes and variations in marketing techniques which appear to be warranted at different times and under different local conditions. Maximizing the benefits of this application usually conflicts with the maintenance of consistent marketing policies. Opportunistic changes in techniques can defeat the purpose of a well-planned marketing program by losing the effect of sustained application. The secret of gaining this type of flexibility appears to lie in obtaining information quickly and in maintaining means by which changes in marketing techniques can be made without reducing the effectiveness of long-standing marketing policies.

Maintaining a minimum investment in company-owned outlets in a given geographical area can increase a company's ability to move out of areas with declining margins of profit and into areas with increasing margins. Since the smaller firm is often unable financially to build a company-owned system of outlets, it usually can shift operations more easily to new profitable areas when opportunities arise.

The employment of multiple channels and the shift of channels of distribution provide a type of marketing flexibility especially important in an experimental expansion of a company's geographical marketing area. Increased flexibility of this type can be obtained through the use of small independent businessmen as primary channels of distribution. While the risk of losing outlets is

greater than if they were owned, the marketing manager can quickly eliminate unprofitable channels and add profitable ones in the shortest possible time. Company-owned outlets may be advisable in the distribution of volume output, but they necessarily tie down the company's assets in a relatively fixed pattern.

The promotion of a single brand tends to commit a management to a definite line of marketing actions whereas the promotion of a number of different brands provides the springboard for quick reaction to changing market conditions. With a number of brands and/or unbranded products, the firm can appeal to various local segments of consumer demand desiring a unique product. For example, a special brand to appeal to Texans only may increase sales without changing the product. Previous outlays on advertising, unfortunately, often reduce this type of marketing flexibility. Although past advertising expense is "sunk" cost, managers often rationalize in practice and avoid changing rapidly to an entirely different selling program when the market setting has changed.

Each sale may be considered on a marginal basis with no attention given to a consistent price structure in any given locality or to any given group of customers. This policy would necessitate the division of the market into non-competing classes. Maximizing flexibility here depends upon the degree of competition in the market. Furthermore, the larger the absolute size of the firm, the more difficult is the administrative problem of controlling such a pricing policy. The few levels in a small firm's hierarchy enables its managers to make quick decisions even if the authority to set prices is centralized in top management.

Rigid sales commitments to consumers are obstacles to flexible marketing. They tend to emphasize the long-run effects of a policy rather than short-run costs and revenue. If a competitor has maintained a large share of the market, it becomes undesirable for him to disturb the price for fear that others will take notice of the change and retaliate. As long as a firm can market its products extensively, i.e., with a small share of any given market, it can increase its freedom to adjust prices so as to maximize profits from individual transactions.

The optimum degree of marketing flexibility depends upon the relation of returns from flexible techniques to their cost of application. Moreover, the degree is related directly to the optimum degree of technological flexibility for the firm.

Financial Flexibility: A third application of flexibility involves the ability of a firm to change its investments from one type of activity to another and to obtain additional funds quickly on good terms when an opportunity suddenly appears for profitable investment. It varies directly with the degree of liquidity maintained by the firm. Furthermore, a good reputation in investment circles will increase financial flexibility by enabling a firm to secure additional funds quickly when they are needed to take advantage of new opportunities.

Financial specialists consider flexibility to be an important factor in appraising a company. Ratios, absolute amounts of working capital, marketability of assets, turnover of inventory, and general standing in the investment market are aspects that are watched carefully as measures of financial flexibility. Yet,

appraisers of top management decisions often underestimate the importance of this application of flexibility to the success and growth of individual companies. The role of financial flexibility is generally hidden in vague references to the ability and intuition of the chief executive or the board of directors. For example, in successful mergers of companies and fortunate purchases of capital equipment, "bargaining ability" and "good judgment" are attributed to the chief executive. Often hidden in these general phrases is the fact that the chief executive had previously placed himself in a superior position through his financial decisions long before the actual merger or purchase. Authorized, but unissued, stock in the company, cash in excess of minimum operating requirements, and friends with access to additional funds provide the foundation for quick decisions when the opportunity arises. In bargaining at the top level, opportunities may exist only for a few hours. If negotiations are required with investment bankers or with other outside persons at the same time, the chief executive loses a great deal of the freedom of action so necessary in such bargaining.

Gaining greater financial flexibility conflicts with other goals of management. Perfect financial flexibility would mean 100% liquidity and the ability to secure unlimited additional funds whenever needed. Each step in "modernization" of production facilities decreases financial as well as technological flexibility by reducing the ability to secure later a still more efficient process or machine. Innovations do not occur at regular intervals. The purchase of an improved fixed facility early in a period of rapid technological change may seem to be evidence of progressive management but it may critically injure the firm's future ability to adjust to additional innovations. Firms with limited financial resources often find it to their advantage to "leave off the brass trimmings" and to operate technically obsolete equipment until it is clear that the new equipment will not itself become obsolete.

The time of need for additional funds does not necessarily coincide with the best time at which new funds can be secured. It may be advantageous to acquire additional funds at times of most favorable financing regardless of whether the exact purpose is visualized to which the funds will be placed. In this way financial application of the flexibility concept is not only related to other applications but is in a sense fundamental to all.

Financial flexibility is obtained at the cost of not using funds for specific purposes. It must be considered jointly not only with the previously mentioned applications but with two administrative applications, personnel and organizational.

Personnel Flexibility: One administrative application of the flexibility concept involves the ease with which individual executives and other employees can shift into different positions within the organization. Broad experience and education increase this transferability of the human element in management. Rigid job functions, seniority, and specialization decrease it.

Chief executives consistently preach the need for executives with a broad background while in practice their subordinates emphasize the employment of

persons with a currently desirable specialization. For instance, many chief executives believe that a liberal arts education is preferable for training men who might become major executives, but the present strong market for specialists in engineering and accounting indicates that personnel flexibility receives little attention at the beginning level.

Increased complexity of organizations has created a necessity for further division of labor at lower levels of management while the scope of duties of higher-level executives has strengthened the demand for men with broad visions. Personnel flexibility and specialization are obviously conjugate principles. Small firms by necessity are forced to economize on the use of specialists and to develop more versatile executives. Larger firms devote much thought to formal executive development programs in order to enhance the transferability of personnel and to train potential major executives. The trend toward divisional organization and decentralization of authority has improved personnel flexibility, yet, segmentation and compartmentalization by specialties remains in highly organized firms.

The development of the professional manager has not helped to increase personnel flexibility. Although in theory he is trained to be an administrator without a qualifying adjective as to kind, in practice he must concentrate on a particular phase for a number of years of employment. Even business schools emphasize functional training instead of training in basic areas of knowledge. It is not surprising then to find that after a number of years of specializing, a manager becomes, what Toynbee calls, "lopsided" in his approach.⁹ Re-training by means of "executive programs" and shifting personnel on a planned basis becomes desirable. Small firms often accomplish the same objective more gradually by maintaining *vis-a-vis* relationships among all phases of management from the beginning of employment.

Some techniques of the "scientific manager" result in decreasing personnel flexibility. Functional specialists, formalized job evaluation systems, rigidly defined departmental sectors, and standard operating procedures have adverse effects upon developing versatile executives. The problem again is to evaluate the incremental returns of flexibility after considering its costs and to relate the results with the results of decisions concerning other applications of flexibility.

Organizational Flexibility: A fifth and fundamental application of flexibility involves that quality of an organization which enables it to adjust to changes in external and internal forces without losing the advantages of a rational, stable structure. Organizational flexibility differs from personnel flexibility; the former refers to the structure and processes of group actions while the latter refers to the human element. Each are closely related and are re-enforced by the other. Organizational flexibility depends in part on excellent communications; personnel flexibility depends partly on spontaneous cooperation among executives; both depend upon using informal organizations within the firm to supplement formal administrative plans.

Formal organization can be made flexible through advance planning. Maxi-

⁹ A. J. Toynbee, *A Study of History* (New York: Oxford University Press, 1947) pp. 303-304.

mum effectiveness results from subtle personal relationships and sociological forces upon which cooperation is built.

Certain current concepts of organization theory lead to rigidities of structure and processes. As such, they are conjugate principles relative to flexibility.

Functionalization often conflicts with flexibility because it requires rigidly defined areas of specialization. It tends to build fences around the performance of executives and to place their actions in compartments. As a firm grows, the ability to utilize specialists increases. Functions must be clearly defined to minimize gaps and overlapping in authority and responsibility.

An approach conflicting with functionalization has proved to be effective in the management of some small firms. One chief executive explained an extreme opinion in an interview:

If you had really sharp departmental lines, you would find people telling others that "it is none of your business" and "leave that to me." Nobody is going to take that attitude if they don't know themselves what their responsibilities are. I have felt that you get more cooperation from people if your organization is so set up where they have to cooperate to get along.

While this approach to management has many obvious disadvantages it does provide an integrated approach to a firm's actions especially valuable to a firm in adapting to completely new situations. Three conditions appear to be necessary for successful use of such an approach: (1) a very low turnover of executive personnel with all knowing the *modus operandi* of the firm, (2) a high group morale among executives, (3) a strong, well-rounded top executive.

The staff assistant with no formal functional speciality is another means by which a management can increase flexibility. This "assistant to" concept is an expedient means by which a group of miscellaneous functions can be handled. It permits executives to specialize temporarily in a clearly defined project and to adapt quickly to new demands for executive attention.

The development of status systems tends to decrease organizational flexibility.¹⁰ The more rank-consciousness that develops, the less the organization is able to adapt to new forces which require a change in emphasis on functions.

The small firm is typically less worried with problems of consistency and is thus better able to avoid the strait jackets of titles. "Empires" typically develop when a certain status accompanies the performance of a group of functions. These empires persist long after the relative importance of the functions has changed. For example, an organizational structure with a group of major executives holding titles of "Vice-president in Charge of" creates a difficult problem when the various functions change in relative importance. A more flexible organization would encourage the allocation of rank on the basis of the current importance of specific functions. A firm of any size in a rapidly growing industry must weigh the advantages of a stable organization structure against an increased ability to meet changing situations.

A "tall" organization is a third opposing factor to a flexible organization. The

¹⁰ See C. I. Barnard, *Organization and Management* (Cambridge, Mass.: Harvard University Press, 1948) p. 240.

number of levels in the hierarchy, resulting from emphasis on a limit to the span of control of executives, increases the lag between the recognition of a problem and the making of a decision. The effort to rationalize authority and communication in rigid channels can increase the lead time for effective actions. Concepts of decentralization and divisionalization used by large corporations increase organizational flexibility by "flattening out" the organization structure. The process of job enlargement in some firms conflicts with the trend toward greater specialization and has increased administrative flexibility.

Even in "flat" organizations, strict compliance with the principle of passing information through each step in the hierarchy will result in decisions being made less rapidly. Nevertheless, skipping channels is often considered a cardinal sin in organization despite the resulting loss of flexibility. Flow of information vertically through each level of the organization, moreover, causes a decrease in the accuracy of facts upon which top management bases its decisions. While all intermediate executives must be kept informed as to what is going on under their authority, some jumping of levels by the major executives will often improve the basis for policy decisions.

Excessive use of formal committees in an organization is a fourth concept which often decreases flexibility. *Ad hoc* techniques of group action have many advantages in securing better coordination. Time need not be spent in committee meetings merely because of a custom of holding periodic sessions. Encouraging executives to confer bilaterally and horizontally in organizational structure can expedite cooperative thinking and limit the need for formal group relationships. Spot appointments for lunch in executive dining rooms, rides home, or other casual techniques can greatly increase coordination and at the same time maintain a flexible pattern which economizes on executive time.

The concept of departmentation in organization may lead toward compartmentalization of thought and a decrease in flexibility. Mary Parker Follett recognized this problem in the study of administration when she stressed "undepartmentalized thinking."¹¹ While a complete review of the organizational structure can yield high returns, an evolution of responsibilities can gradually bring the adjustments smoothly, quickly, and efficiently. As executives meet new problems, they naturally tend to develop responsibilities different from those with which they started. A dynamic leader will tend to seize authority rather than wait for it to be delegated. An organization structure which stifles this initiative will also stifle the desirable leadership qualities required in dynamic management.

SUMMARY AND CONCLUSIONS

Too often concepts of administration have tended subtly to decrease flexibility to the detriment of good over-all management. Flexibility is a concept which should be analyzed carefully in the light of basic factors affecting the organization. Economic theory can provide some processes for this analysis.

¹¹ H. C. Metcalf and L. Urwick, *Dynamic Administration: The Collected Papers of Mary Parker Follett* (New York: Harper & Bros., 1940) pp. 183-94.

Further research in the means of quantitatively measuring returns and costs of flexibility will make this analysis more useful. Careful qualitative study of applications of the concept point out the alternatives available to various specialists in a business firm. The decisions of these specialists, however, must be coordinated by the chief executive after he has determined the desirable degree of flexibility for the firm as a whole. Unique adjustments of mutually conflicting concepts of management can be made through greater attention to the economics of administration.

GOVERNMENTAL DEFENSE INDUSTRIAL ACTIVITY IN RELATION TO THE SOUTH¹

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Perhaps it is unnecessary to observe that, in the American economy, individuals as owners and/or managers of businesses make the decisions governing the location and development of industrial plants. The federal government has no specific responsibility or power to promote industrial development in any given region, except in the general national interest. Nevertheless, the federal government does exert an important influence on economic development through wage legislation, social security programs, tax policy, high-level spending, resource and area development programs, and other policies. These programs, although intended to promote the national interest, may have a differential impact on various regions of the country.

This article will be concerned with the impact of selected federal policies dealing with the location of defense industrial activity in the Korean and immediate post-Korean period.² The policies considered here will include (a) the placement of defense procurement and (b) the awarding of certificates of accelerated tax amortization.

In a general sense, the federal government's policy was to minimize the governmental construction of industrial facilities in the Korean and post-Korean period; however, various inducements were provided in the Defense Production Act of 1950 to encourage expansion by private ownership of capacity "necessary for national defense."³ According to the Fourth Quarterly Report of the Office of Defense Mobilization, which is the agency responsible for the administration of the Defense Production Act, "the most important of these devices is accelerated tax amortization, which enables a varying portion of plant costs to be written off for tax purposes at the accelerated rate of 20 percent annually."⁴ The normal period of tax depreciation for most plants would be 20 to 25 years, as compared with the 5 years authorized under rapid amortization.

The statement of general policy controlling the expansion of the industrial production base for defense purposes was included in the National Manpower

¹ This article is an expanded revision of a paper, "Governmental Defense Industrial Activity in Relation to Arkansas," read at the 1956 meeting of the Southern Economic Association. Research for the paper was conducted while the author was on the faculty of the University of Arkansas and was sponsored by the Bureau of Economic and Business Research of the University of Arkansas.

² Quantitative data cover the period through the end of fiscal 1956, or as otherwise noted. This is the period of most rapid expansion of defense industrial activity.

³ The various inducements employed by the government included: accelerated tax amortization, purchase and resale of vital materials, direct loans to business, loan guarantees, commitments to purchase at specified floor prices, and financing of part of the cost of exploration for minerals.

⁴ Page 12 of that report.

Mobilization Policy issued by the President on January 17, 1951. Section 7(i) of the policy provided that: "Production will be scheduled, materials allocated and procurement distributed with careful consideration of available manpower. Whenever feasible from an economic and security standpoint, production facilities, contracts, and significant subcontracts will be located at the sources of labor supply in preference to moving the labor supply."⁵ Under this policy, it is very clear that the availability of labor was to be an important determinant of location, "whenever feasible from an economic and security standpoint."⁶

Let us consider first the effects which such a policy might be expected to have on the South.⁷ On superficial examination, it would seem that a policy governing defense industrial location and procurement which emphasized the availability of labor would have been of greater benefit to the South than to other sections of the country. In the South, the rate of population increase has been significantly below the national average, and three states—Alabama, Arkansas, and Mississippi—actually lost population. Furthermore, as shown in Table I, the failure of the South to keep up with the national rate of increase was not due to a lower birth rate but was caused by people moving out of the area (in all states except Florida which experienced in-migration). Therefore, from the viewpoint of reducing the migration of labor supply through the location of plants and jobs at the sources of labor, the government's policy would have been expected to result in the location of contracts and plants in the South.

However, the South did not participate in defense expansion and procurement on a ratio proportional with its population.⁸ As a rough measure of partici-

⁵ In the same vein, the House Committee on Banking and Currency in reporting out S. 349 (Defense Housing and Community Facilities and Services Act of 1951, PL 139) indicated: "Your committee feels that in the placing of defense orders and the location of defense plants consideration should be given to existing labor and housing supplies so that, insofar as practicable, the need for new housing and community facilities and services will be minimized." (House Report 795, Aug. 6, 1951.)

⁶ Consideration of feasibility from the "security standpoint" involves the question of industrial dispersal. The federal government adopted a National Industrial Dispersion Policy in August of 1951. It might be expected that the dispersion of industry would have led to many sections of the South being favorably considered as sites for the location of defense industrial facilities. However, little attention was paid to promoting national security through industrial dispersion. See, Commission on Intergovernmental Relations (Meyer Kestnbaum, chairman), *A Staff Report on Civil Defense and Urban Vulnerability*, 1955, pp. 20-21.

⁷ For purposes of this article, the area designated as "the South" includes the following eleven states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. The same designation was used in *Selected Materials on the Economy of the South*, 84th Congress, 2nd Session, Senate Report 2830.

⁸ It might be argued that defense industrial activity should be related not to total civilian population but to the industrial labor force. This argument, however, seems to beg the question and simply states that industry should be located where industry is. The question which is involved is "Where should defense industrial activity be located?" And the stated policy was that it should be located "at the sources of labor supply."

In the same vein, it might be argued that population simply is not a sufficient consideration since it is necessary for the population to have skills and other necessary characteristics. However, this point, although somewhat more valid, does not consider that the persons who migrate must either have or acquire these necessary abilities in order to work in industry.

TABLE I
CIVILIAN POPULATION CHANGES IN THE SOUTH, 1950-1955¹
AND NET CIVILIAN MIGRATION, 1950-1954²

Area	Civilian Population (thousands)			Percent Change 1950 to 1955	Net Migration April 1950 to July 1954 (thousands)	Percent Natural Growth 1954
	April 1950		July 1955 Number			
	Number	% of Total				
United States	149,634	100.0	162,284	8.5	1,233	1.6
South	31,438	21.0	32,790	4.3	-1,191	1.9
Rest of U. S.	118,196	79.0	129,494	9.6	2,424	1.5
Alabama	3,053	2.0	3,066	-1.6	-277	1.9
Arkansas	1,908	1.3	1,770	-7.2	-247	1.7
Florida	2,729	1.8	3,364	23.3	330	1.6
Georgia	3,402	2.3	3,539	4.0	-147	2.0
Kentucky	2,913	1.9	2,948	1.2	-176	1.6
Louisiana	2,670	1.8	2,902	8.7	-30	2.1
Mississippi	2,164	1.4	2,085	-3.7	-231	2.3
North Carolina	4,014	2.7	4,190	4.4	-170	2.0
South Carolina	2,096	1.4	2,226	6.2	-67	2.2
Tennessee	3,281	2.2	3,399	3.6	-128	1.7
Virginia	3,208	2.1	3,421	6.7	-48	1.8

¹ Source: Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 125 and 129.

² Source: *Selected Materials on the Economy of the South*, 84th Congress, 2nd Session, Senate Report No. 2830, p. 6.

If they have the skills, then the areas from which they migrate would have been qualified for industrial activity. If they do not have the skills, does it matter in which area they acquire them? Also, persons moving between jobs (from civilian to defense) within areas must either have or acquire any necessary new abilities.

Lastly, it might be argued that, in the South, population is too spread out to provide an adequate labor supply. In some areas of the South, this observation would, of course, not be true; however, for those areas where it might be thought to apply, it should be remembered that labor travels considerable distance by automobile for job opportunities. Thomas H. MacDonald, Commissioner, Bureau of Public Roads, testifying on the need for steel in the road program, pointed out a case which was apparently considered as not at all unusual: "We took an analysis of the labor supply for one of the most sensitive defense plants. We found that out of 13,000 employees in Indiana, by the way, less than one-third came from within the metropolitan area immediately surrounding, and that the labor on the payroll came from as much as 86 miles away, that is, labor is traveling by motor vehicle." *Defense Production Act—Progress Report No. 17*, p. 889.

Also, the labor supply may be larger than surveys indicate. A specific case in point occurred in Arkansas during World War II. The government, anticipating a shortage of housing and community facilities as a result of a survey of labor needs and labor supply at a newly constructed aluminum refining plant near Benton, Arkansas, constructed a community (Pine Haven) containing 3,700 housing units; however, less than one-third of the units were occupied. The most frequent explanation is that the local labor supply proved to be larger than estimated by the survey. See, *Aluminum*, Bureau of Economic and Business Research, University of Arkansas.

For the above reasons, the author believes that it is most meaningful to relate defense industrial activity to total civilian population.

pation in procurement, the South with 21.0 percent of total U. S. civilian population in 1950 received only 6.6 percent of the almost \$101 billion net value of military prime procurement contracts awarded in the United States, and distributable by states, between July 1951 and June 1956.⁹ As shown by Tables I and II, the southern region, and every state in that region, shared less than in proportion to population in the awarding of defense procurement prime contracts. Furthermore, in the expansion of defense industrial facilities under certificates of rapid amortization, the South had only 1,343 applications certified between October 1950 and December 1955; this was 7.9 percent of the national total distributable by states of 16,976 certifications. Also shown in Table II, the allowable total value of the southern facilities constructed under these certificates was approximately \$3 billion or 14.1 percent of the some \$21 billion awarded in the United States and distributable by states. Considering the portion of the newly constructed facilities which was actually eligible for rapid amortization, the southern share was less than \$2 billion or 13.6 percent of the national total distributable by states of almost \$13 billion.

Examining the participation in rapid amortization by the individual states of the South, it is found that all states—with the exception of Florida and Louisiana—shared less than in proportion to their populations. For Florida, the allowable total value of certified facilities was a slightly greater percentage of the national total than Florida's percentage of total population; however the portion of the Florida facilities eligible for amortization was the same share of the national total as Florida's population. Louisiana, on the other hand, did participate substantially more than in proportion to its population both in allowable total value of certified facilities and in the proportion of those facilities eligible for amortization. From Table I, it will be noticed that Florida and Louisiana are the only two states in the South which have experienced a rate of population increase greater than the national rate of increase for the period 1950-1955, and they are the two states with the best records in terms of migration of population for the period 1950-1954. For Florida, the population increase was undoubtedly controlled by other considerations (e.g., climate); however, for Louisiana, the location of defense industrial facilities did improve economic opportunities and probably contributed significantly to the reduction of out-migration of population.

Nevertheless, it seems clear that the South as an area shared less than in proportion to its population both in defense procurement and in the expansion of the defense industrial base. Furthermore, this occurred despite the fact that the policy proposed to locate defense industrial activity at the "sources of labor supply," and the South experienced an out-migration of population in the period 1950 through 1954. The reasons for the discrepancy between the stated

⁹ For most contracts with manufacturers, the location of prime contracts indicates the location of the plant where the final product will be assembled. Therefore, in referring to prime contracts only, the reports of location do not reflect the very substantial amount of subcontracting. However, despite the fact that the location of prime contracts does not necessarily show total defense procurement activity, it does provide the best available evidence of a state's share in this type of spending.

TABLE II
PARTICIPATION IN MILITARY PROCUREMENT AND RAPID AMORTIZATION
IN THE SOUTH, SELECTED PERIODS

Area	Military Procurement July 1951-June 1956 ¹		Facilities Certified for Rapid Amortization October 1950-December 1955					
	Amount (thousands)	% of Total	Number	% of Total	Allowable Total Value ²		Eligible for Amortization ³	
					Amount (thousands)	% of Total	Amount (thousands)	% of Total
United States	100,585,697	100.0	16,976	100.0	21,001,294	100.0	12,993,442	100.0
South	6,633,510	6.6	1,343	7.9	2,958,977	14.1	1,772,881	13.6
Rest of U. S.	93,952,187	93.4	15,633	92.1	18,042,317	85.9	11,220,561	86.4
Alabama	655,349	0.7	172	1.0	305,466	1.5	174,836	1.3
Arkansas	193,242	0.2	62	0.4	117,613	0.6	90,005	0.7
Florida	350,855	0.3	142	0.8	420,855	2.0	229,070	1.8
Georgia	1,497,036	1.5	96	0.6	190,720	0.9	103,521	0.8
Kentucky	251,336	0.2	129	0.8	215,614	1.0	137,414	1.1
Louisiana	721,056	0.7	178	1.0	715,160	3.4	480,047	3.7
Mississippi	226,660	0.2	61	0.4	168,722	0.8	93,489	0.7
North Carolina	968,311	1.0	175	1.0	223,468	1.1	130,585	1.0
South Carolina	264,801	0.3	63	0.4	62,905	0.3	35,193	0.3
Tennessee	622,530	0.6	143	0.8	286,161	1.4	166,148	1.3
Virginia	882,334	0.9	122	0.7	252,293	1.2	132,573	1.0

¹ Source: Office of the Assistant Secretary of Defense (Supply and Logistics), release of October, 1956. Data include prime contracts distributable by states (see footnote 9). Data separating military procurement from construction were not available until July 1951; however data on the combined category, military procurement and construction, for the period July 1950 through June 1956 showed essentially the same results.

² Source: Office of Defense Mobilization. Allowable total value refers to the amount certified after deducting disallowable items (e.g., land, administrative facilities, and replacement of existing facilities) from the total amount applied for. Also, data here exclude those facilities which are not confined within a state area (e.g., railroad rolling stock, power transmission lines, oil and gas pipelines, and others). For the entire United States, including the at-large items, the allowable total value of facilities certified was \$32,550,588,000 of the \$33,611,734,000 total value applied for.

³ Source: Office of Defense Mobilization. Eligible for amortization refers to the amount (distributable by states) which is attributable to national defense purposes and is, therefore, eligible for rapid amortization for income tax purposes. Total eligible amortization in the United States, including at-large items, was \$19,463,470,000 for the period covered here. The percentage of allowable total value which was eligible for rapid amortization, on the average, for the U. S. was 61.9 percent. In the South, it was 59.9 percent, and for the rest of the U. S., it was 62.2 percent.

governmental policy and the realized results in the South is the subject of this article.

LABOR SURPLUS AREAS

The programs by which the federal government attempted to implement its policy objective of locating defense industrial activity at the "sources of labor supply" were developed under Defense Manpower Policy No. 4 issued by the

Office of Defense Mobilization on February 7, 1952.¹⁰ The original programs developed under DMP No. 4 were concerned primarily with problems arising in the conversion from civilian to military production.¹¹ Labor-market areas, in order to qualify for preferential treatment in governmental procurement, had to be certified as a "labor-surplus area" containing skills and facilities which might be used for defense production work on governmental contracts.¹²

On November 5, 1953, Defense Manpower Policy No. 4 was revised.¹³ Whereas the original policy had been limited in its application to labor-surplus areas with substantial facilities and skills, the revised policy extended procurement preference to all areas classified as "labor-surplus" by the Department of Labor.¹⁴ In addition to changing the policy, on the distribution of defense procurement contracts, the revised policy provided for a new rapid amortization procedure which was intended to encourage the location of new defense industrial facilities in areas of "chronic" labor surplus.¹⁵ This latter revision of the policy provided that defense facilities located in areas of "chronic" labor surplus could qualify for an additional amount of amortization above the normal percentage allowable for the particular type of facility. In other words, the construction of defense industrial facilities would be attracted into "chronic" labor-surplus areas because a higher-than-normal percentage of the cost of any given facility could be amortized in these areas. The intent of the revised policy was described by Dr. Arthur S. Flemming, Director of the Office of Defense Mobilization:¹⁶

¹⁰ 32A CFR CH I, DMP 4. Prior to the issuance of DMP 4, various letters and directives were issued by the responsible governmental agencies "to pay particular attention to the availability of manpower, in letting defense contracts." See, Director of Defense Mobilization, *First Quarterly Report* (April 1951), p. 26, *Second Quarterly Report*, pp. 25-29, and *Third Quarterly Report*, p. 25.

¹¹ Testimony of Dr. Arthur S. Flemming in *Defense Production Act—Progress Report No. 18*, Hearings before the Joint Committee on Defense Production. These Hearings are hereinafter cited as *DPA-Progress Report*.

¹² Preferential treatment was provided in that suppliers located in labor-surplus areas were permitted to rebid at a price which would match the bids of the low bidders and thus obtain the contracts (provided that their original bids must be no more than 20 percent higher than the bid of the low bidders). Also, portions of procurement were "set-aside" to be let in labor-surplus areas. Certain industries—textiles, shoes, and apparel—were exempt because the problems in these industries were to be handled on an industry-wide basis.

¹³ 18 FR 6995, November 5, 1953.

¹⁴ The new policy eliminated "bid-matching" procurement, but relied more heavily on "set-asides." This method of distributing procurement to labor-surplus areas was, in turn, expanded to include a greater number of contracts.

¹⁵ The availability of labor had been considered as an important requirement for rapid amortization during the entire period of defense industrial expansion. See, ODM, *Second Quarterly Report*, July 1, 1951.

¹⁶ *DPA-Progress Report No. 27* (1954), p. 142. The revision of DMP 4 introduced into the policy the idea of "assistance" to "chronically distressed communities." Nevertheless, the administration of the program was still based on the broad policy objective of locating defense industrial activity at the "sources of labor supply."

This revision of DMP 4 is particularly important because the programs developed to administer the policy and the results obtained from its operation serve to indicate possible consequences of "depressed area" legislation, if a bill similar to most of those introduced into recent Congresses should be enacted into law.

Obviously, the policy was not designed as a cure for unemployment in any community. However, it has been of some aid to distressed areas not only by helping to provide employment but more fundamentally by acting as a catalyst for community efforts to solve the problems that led to distress. The revised policy more frankly faces the problem of most of the chronically distressed communities.

In large part they are one-industry towns which have been bypassed in the growth and rapidly changing technology of our economy. Their need is not just contracts to occupy existing facilities; primarily it is the expansion and diversification of their economies through the creation and development of new industries. In the revision of DMP 4 this need was recognized and various kinds of technical assistance—such as that given by the Small Business Administration—were included. The job of community development is primarily one which calls for local initiative. The States and the Federal Government can foster this initiative and bring to bear on local problems the great resources of knowledge and help at their command.

The objectives which the revised Manpower Policy No. 4 hoped to accomplish seem desirable. This article, however, is not concerned with an evaluation of the objectives of the policy. Assuming that the objectives are desirable, the methods of implementing the policy left much to be desired if the intent were genuinely "to put the work where the workers actually are at a particular time."¹⁷

It would seem that a program which was intended to encourage the location of defense industrial facilities in "chronic" labor-surplus areas would have resulted in plants being located in southern states which were experiencing an out-migration of population—that is, they were states with a "chronic" surplus of labor. However, as shown in Table IV, the extent of the new rapid amortization program had not assumed significant proportions by the end of fiscal 1956, and even to the limited degree to which it did operate, the program had no significant effect on the southern states with the greatest out-migration of population—Alabama, Arkansas, and Mississippi. Only one southern state—North Carolina—received significant assistance from both the labor-surplus procurement (Table III) and the higher-than-normal percentage amortization (Table IV) features of the program. Preference going to North Carolina was due in large part to depressed conditions in the textile industry; all of the higher-than-normal percentage amortization assistance going to the state was placed in the Asheville, Durham, or Winston-Salem areas.

In addition to the limitations imposed by the modest extent of the program, there were two major deficiencies in the implementation of the policy insofar as most of the southern states were concerned: (1) it failed to give adequate attention to smaller unclassified labor-market areas, and (2) it did not consider *underemployment* as well as *unemployment*. The second deficiency of the program may have contributed in part to its modest extent, since the failure to consider underemployment tends to underestimate the degree of total economic unemployment.

(1) Labor market areas. Considering first the question of labor-market areas,

¹⁷ The overall manpower mobilization objective was succinctly summarized in this manner by Dr. Flemming, *DPA-Progress Report No. 26*, p. 32.

TABLE III
NET VALUE OF MILITARY SUPPLY PROCUREMENT ACTIONS OF \$25,000 OR
MORE¹ IN LABOR-SURPLUS AREAS, MARCH 20, 1952-MARCH 31, 1956

Area	Total Placed in Areas		Placed as a Result of Preference ²	
	Amount (thousands)	% of Total	Amount (thousands)	% of Total
All States ³	\$3,970,077	100.0	\$102,386	100.0
States in South	197,721	5.0	7,568	7.4
Alabama	15,723	0.4	998	1.0
Arkansas	166	0.0	none	—
Georgia	1,031	0.0	28	0.0
Kentucky	9,570	0.2	2,327	2.3
Mississippi	98	0.0	none	—
North Carolina	119,801	3.0	3,520	3.4
South Carolina	365	0.0	none	—
Tennessee	26,808	0.7	422	0.4
Virginia	24,159	0.6	273	0.3
Others	none	—	none	—

Source: Compiled from data released by the Office of the Assistant Secretary of Defense (Supply and Logistics).

¹ Data reflect the "value of new awards and contract increases minus the value of contract terminations and decreases." The Department of Navy includes contracts of \$10,000 and over. Contracts awarded to the textile industry are excluded since they were handled on an industry-wide basis.

² Net value of procurement actions for the period that labor markets in each of the individual areas were designated as "labor-surplus."

³ Thirty-five states plus Hawaii and Puerto Rico.

TABLE IV
RAPID AMORTIZATION, INVOLVING HIGHER-THAN-NORMAL PERCENTAGES,
CERTIFIED FOR FACILITIES TO BE LOCATED IN CHRONIC
LABOR-SURPLUS AREAS THROUGH JULY 1, 1956

Area	Number of Certificates	Estimated No. of Additional Employees	Estimated Cost of Facilities (thousands)	Average Normal Percentage	Average Percentage Certified
All States ¹	59	13,756	\$223,063	50.2	70.8
States in South	14	3,623	50,002	42.2	64.2
Kentucky	1	90	7,800	50.0	60.0
North Carolina	12	3,333	37,875	40.8	65.0
Virginia	1	200	4,327	40.0	65.0
Others	none	—	—	—	—

Source: Compiled from data released by Office of Defense Mobilization.

¹ Sixteen states received these certificates. The states and the number of certificates received were: Indiana (1), Iowa (1), Kentucky (1), Maryland (2), Massachusetts (1), Michigan (3), Missouri (2), New Jersey (1), New York (2), North Carolina (12), Ohio (1), Pennsylvania (22), Rhode Island (6), Vermont (1), Virginia (1), and West Virginia (2).

we find that the Department of Labor makes continuing investigations of labor-market areas, classifying them "according to uniformly applied criteria."¹⁸ This classification considers employment and unemployment levels, employer hiring plans, and other factors affecting the condition of the employment level in the areas. The Department of Labor limits its reporting to "major" labor-market areas and also includes certain "smaller" areas when these "smaller" areas fall in the "current or imminent labor-surplus" classification. For purposes of this article, the important consideration is that the smaller areas must have an estimated labor force of at least 15,000, an estimated nonagricultural wage and salaried employment of at least 8,000 and must not be primarily a trade or service city. Further, these "smaller" areas are surveyed only when the Department of Labor is requested to make a special survey.

Let us first consider the effect of the labor market designation on defense procurement. Early in the administration of Manpower Policy No. 4, it was recognized that the policy, limited to classified labor markets, occasionally hurt business in small areas which were not subject to classification. The remedy for this failure of the policy was to exempt such areas from the application of the policy—that is, if a firm in an unclassified area were to submit the low offer on a negotiated contract, it would get the contract.¹⁹ However, even with this adjustment, the program still discriminated against unclassified areas since the "set-aside" portions of contracts were removed from their participation. Furthermore, this change of policy attempted to solve the problem of these areas simply by ignoring it.

In addition, the selectivity of the policy of ignoring areas too small to classify in the placement of procurement was such that the program discriminated in greatest part against those regions of the country which are relatively underdeveloped industrially and without urban concentrations. The policy was geared to the utilization of labor resources in areas which were already developed industrially, and it gave little attention to sections of the nation which were in transition from predominantly agricultural to a more balanced agricultural-industrial economy. In a labor-market area with little industrial development—perhaps with only a few small plants or one large plant—it would be unlikely that nonagricultural employment would be as high as an 8,000 figure. This type of labor-market area would probably be found to be typical in many areas of the South.²⁰

¹⁸ Bureau of Employment Security, *Criteria and Procedure Used in Classification of Labor Market Areas* (Jan. 26, 1954) and *Criteria for Classification of Areas of Substantial Labor Surplus* (Group IV), (Nov. 3, 1953).

¹⁹ *DPA-Progress Report No. 26*, p. 22.

²⁰ An attempt was made to verify this hypothesis by comparison between the industrial North and the South of the populations of smaller labor-market areas which were admitted to classification in the period May 1954 through January 1956; however comparison was found to be impracticable for two reasons: (1) because of the extreme flexibility in the geographical size of areas designated as a labor-market area and (2) because of lack of evidence to show whether or not the areas admitted to classification already contained similar amounts of industrial development and therefore similar population sizes.

The evidence which was examined showed that among the smaller labor-market areas

In July of 1955, the Office of Defense Mobilization attempted to correct this weakness of the program by providing that firms located in unclassified areas might participate in set-asides by obtaining from their local Employment Security Office a certificate that "a substantial labor surplus exists in the area."²¹ This certificate becomes a part of the firm's bid, and a new certificate must be obtained for each bid. Through September 15, 1956, nineteen certifications had been issued by local Employment Security Offices in seven states.²² One of the certificates—in Tracy City, Tennessee—was issued in the South. The program, even in its revised form, contained additional red tape—the need to obtain certificates with a new certificate required for each bid—which continued to discourage bidding by firms located in unclassified areas.

Let us now turn to a look at the effect of the "labor-market problem" on the expansion of defense industrial facilities through rapid tax amortization. Here, again, the government's policy discriminated against industrially underdeveloped areas without urban concentrations. This discrimination resulted for the same reasons—that is, these areas could not meet the necessary requirements to qualify as even a smaller, classified labor-market.

There was also a late correction of this deficiency. Beginning on September 1, 1956, the Office of Defense Mobilization authorized the certification for higher-than-normal percentage amortization in areas too small to classify, if local Employment Security Offices indicated the existence of a condition of "chronic" labor surplus. Under this change, one rapid amortization certificate had been issued in the United States—in Ohio—through November 27, 1956.²³ This change in the policy came too late to be of assistance to most labor-market areas which are too small to classify, since the list of ODM's open expansion goals eligible for rapid amortization had been considerably reduced by 1956. Furthermore, insofar as many areas of the South were concerned, there was another serious deficiency in the implementation of the policy of locating defense industrial activity at the sources of labor supply.

which were surveyed and classified in the industrial North, the one with the least population had 36,500 (Pennsylvania) and the one with the largest population had 274,000 (New Jersey). In the South, the area with the smallest population admitted to classification was 42,000 (Georgia) and the largest 235,000 (Tennessee). However, this small labor market with the largest population in the South, which was classified at 235,000 in May 1954, was reclassified to include a greater geographical area with 278,000 population in the labor market in July 1955. The average size of the 22 areas in the South admitted to classification was 82,900, while the average size of the 46 areas in the North was 82,400.

²¹ 20 FR 5422, July 29, 1955. Amendment to Paragraph B 2, Section IV, DMP 4.

²² New Mexico (8), Maine (4), Nebraska (3), Illinois (1), Indiana (1), Tennessee (1), and Texas (1). No data are available to indicate whether or not the firms obtaining these certificates actually received the contracts on which they bid. Data supplied by Bureau of Employment Security.

²³ This certification, located in Monroe County, Ohio, involved a \$90 million aluminum plant which was expected to provide 2,000 new jobs. The facility was eligible for rapid amortization on 75 percent of the plant cost rather than the normal 50 percent for this type of facility. Data supplied by Bureau of Employment Security.

The activities of Monroe County in its community improvement program are reported in *Rural Development Program News*, No. 8, Department of Agriculture, May, 1956.

(2) Labor surplus. The other deficiency of the program, from the viewpoint of many areas of the South, was the fact that the determination of a condition of labor surplus did not take into consideration *underemployment* as well as *unemployment*. Since location of defense industrial activity was to be controlled by availability of labor supply as shown by the existence of "labor surplus," the methods of determining "labor surplus" will have a large effect on the operation of the programs. Many areas of the South, although losing population between 1950 and 1954, did not have a serious condition of definitional unemployment. Many southern workers were engaged in marginal, or even supra-marginal, activities in terms of economic opportunities in the region, but these same opportunities were sub-marginal in terms of the total economy. Therefore, migration occurred without these workers ever falling into the classification of definitional unemployment and thereby creating a condition of "labor surplus."

If the government's policy were genuinely intended to locate defense industrial activity at the "sources of labor supply," then consideration should also have been given to areas where underemployment existed—that is, the annual productivity of either the marginal or average worker is such that per capita income is significantly below the national average. States with low per capita incomes—which is true of most southern states—have a potential supply of labor from the ranks of the underemployed.²⁴ By ignoring the condition of underemployment, the government's policy tended to discriminate against the development of those areas which were experiencing depressed agricultural conditions and were transitional between predominantly agricultural and more balanced economies. Technological change, occurring in the better developed sections of the country, resulted in unemployment, and this in turn gave preference to these areas in government procurement and the location of defense industrial facilities.

Disregarding the cause of the decline of the various types of economic activity, it seems clear that, from the viewpoint either of the individuals concerned or of the total economy, there was little economic difference between declining industrial activity in various industrialized sections and declining small-scale farming in many southern sections of the country. Both of these activities involved the individual in pursuits which paid him a low real income on an annual basis. Secondly, individuals in both activities contributed little to the total economy in terms of their annual productivity.

This article is not arguing that areas of "chronic" labor surplus in industrially developed areas should not have been given consideration in the placement of defense procurement and in the location of defense industrial facilities.²⁵ It does

²⁴ In 1955, the six states with the lowest per-capita incomes were all in the South, and most of the southern states were in the lowest fourth on this basis. Average per-capita income in the South was not quite two-thirds that of the rest of the country. The southern state with the highest per-capita income (Florida) ranked 24th among all states. *Selected Materials on the Economy of the South*, p. 1.

²⁵ It would be well to mention again that, although the original DMP 4 was limited in its application to labor-surplus areas with substantial facilities and skills for performing defense work, the revised policy extended preference to *all* areas classified as labor surplus. If

argue that other areas met essentially the same criteria, if consideration had been given to the fact that these areas had not yet developed industrially, and, as a consequence, their availability of labor supply would be found as underemployment rather than unemployment. The conclusion seems inescapable that, under Manpower Policy No. 4, both the placement of defense procurement and the programs determining the issuance of rapid amortization certificates, although of assistance to some areas of the South, did not benefit the South to the extent which might have been expected from the stated objectives of the policy. This failure to meet expectations arose both from the nature of the labor-market designation and from the concept of "labor surplus" utilized.

CONCLUSION

In conclusion, two points are found to be of major importance from the analysis of governmental defense industrial activity in relation to the South.

First, in the nature of a summary of this article, the southern region did not participate in defense procurement and rapid amortization in proportion to its population. The failure to participate in defense procurement cannot, of course, be attributed entirely to the deficiencies of the program, since contracts cannot be awarded to non-existent bidders, and there is no evidence to demonstrate that southern businessmen attempted to participate in this type of activity to the same degree as producers in other areas.²⁶ Nevertheless, the deficiencies of the program did make it more difficult for many bidders in the South. In regard to rapid amortization, however, the implementation of the policy failed more directly to give adequate attention to the possibilities for the location of defense industrial facilities in the South.

The two major deficiencies of the program, insofar as most southern areas were concerned, arose as a result of (1) the method of designating labor markets and (2) the concept of labor surplus utilized. In addition to these shortcomings, the program of encouraging the location of defense industrial facilities in areas of chronic labor surplus never did assume significant proportions. The "labor-market problem" was not a weakness of the program which was restricted exclusively in its impact to the South. The method of designating labor markets tended to discriminate against all regions of the country which lack urban and industrial concentrations. It just happens that this type of labor market is rather typical in many southern areas. The concept utilized in measuring "labor surplus," however, did discriminate in greatest degree against the southern region, since this is a low-income region. The failure to consider underemployment as well as unemployment resulted in an understatement of the degree of economic unemployment in the South.

a broader concept of labor productivity had been utilized—and the significant point of unemployment (surplus of labor) is lack of productivity—then many areas in the South would have qualified as having a labor surplus.

²⁶This point was carefully developed by Mr. Charles M. Stephenson of the Tennessee Valley Authority who served as an able discussant of the author's paper at the Southern Economic Association meeting.

The second point, in the nature of a forecast, is that unless a method is developed for incorporating underemployment into the concept of unemployment, the South cannot expect to participate on an equitable basis in any "depressed area" legislation which may be passed by the federal government. Recent bills introduced in Congress have usually defined "depressed area" in terms of chronic unemployment. Chronic underemployment, however, is the problem which, although found in some other scattered areas of the country, has long plagued the South and has resulted in the out-migration of population. Certainly, attention should also be devoted to this problem which can to a large degree be broadly classed as the southern economic problem.

As was pointed out in the opening paragraph of this article, the federal government has no specific responsibility or power to promote industrial development in any given region, except in the general national interest. The ultimate responsibility for economic development in any given region rests upon the people of the region and depends upon the community programs which they develop. However, if federal legislation and programs are going to supplement and, in Dr. Flemming's words, "act as a catalyst for community efforts to solve the problems that led to distress," then these policies and their administration should be flexible enough to take into consideration the various economic circumstances and their causes in the different regions of the country.

COMMUNICATIONS

NOTES ON THE BARGAINING PROBLEM

I

In a recent paper¹ H. M. Wagner has argued that the only way of deriving a determinate solution for a bargaining situation is by means of introducing "fairness" considerations or similar moral criteria. In the case of Nash's theory of bargaining in particular, Wagner claims that two of Nash's axioms (presumably axioms 7 and 8 of Nash's 1950 paper, or equivalently axioms V and IV of his 1953 paper)² have the nature of moral postulates, rather than the nature of assumptions about the actual behaviour of rational bargainers. As similar views were earlier expressed by other authors,³ and as the issue is crucial for the theory of bargaining, I should like to use this opportunity, first of all, to make some comments on this problem. Then, I propose to deal with Wagner's criticism of Zeuthen's bargaining model, and with his objections to my proof of the mathematical equivalence of Zeuthen's and Nash's theories.⁴

I now propose to show that there is no need for invoking moral considerations in connection with Nash's axioms. The first of the two axioms in question in fact expresses an important structural property of the *actual* bargaining process: as has been pointed out by Nash, it expresses the fact that in bargaining the range of the possible alternative deals considered by the two bargaining parties is continually narrowed down more and more so, that in the end any proposed deal has to compete only with close alternatives but not with the more remote alternatives already rejected by the bargaining parties at earlier stages.⁵

Nash's other axiom is a symmetry postulate. It expresses the idea that in a perfectly symmetric bargaining situation involving two rational players neither player will be prepared to give his opponent better terms than he is given himself by the latter. This mechanism will tend to give rise to a symmetric solution

¹ "A Unified Treatment of Bargaining Theory," in this Journal, April 1957, Vol. XXIII, pp. 380-397.

² See J. Nash, "The Bargaining Problem," *Econometrica*, 1950, Vol. 18, pp. 155-162; idem, "Two-Person Cooperative Games," *Econometrica*, 1953, Vol. 21, pp. 128-140.

³ Cf. H. Raiffa, "Arbitration Schemes for Generalized Two-Person Games," in *Contributions to the Theory of Games*, Vol. II, ed. by H. W. Kuhn and A. W. Tucker, Princeton, 1953, pp. 361-387; and R. B. Braithwaite, *The Theory of Games as a Tool for the Moral Philosopher*, Cambridge, 1955.

⁴ See J. C. Harsanyi, "Approaches to the Bargaining Problem Before and After the Theory of Games: A Critical Discussion of Zeuthen's, Hicks', and Nash's Theories," *Econometrica*, April 1956, Vol. 24, pp. 144-157.

⁵ See Nash, 1953, p. 138. Actually, I have shown in my earlier paper (see previous footnote) that by means of Zeuthen's model the Zeuthen-Nash solution can be derived without the use of this axiom, merely by the use of the usual rationality postulates and a symmetry postulate.

in any symmetric bargaining game between two rational individuals, quite irrespective of the moral standards (if any) of the two bargaining parties.⁶

We have to distinguish between *bargaining theories*, which try to predict the outcome of actual bargaining behaviour, and *arbitration theories*, which try to supply criteria for defining a "fair" solution for a bargaining situation. The former belong to positive economics, the latter to welfare economics. The Nash-Zeuthen theory of bargaining falls into the former category: it deals with rational bargainers each of whom considers only what his own interests are⁷ and what may be acceptable to the other party in terms of the latter's own interests.

Of course, anybody may define, if he wishes to, his own standard of "fairness" in terms of the Nash solution. In that case for him this solution may have the nature of both a "bargaining theory" and an "arbitration theory." But I agree with Professor Braithwaite that as an arbitration theory the Nash solution is not particularly attractive: in many cases it yields a payoff distribution that most of us would regard as inconsistent with the standards of fairness we entertain.

This is of course not surprising. In the case of a symmetric game, where the two parties are equally "strong," both bargaining theories and arbitration theories will furnish a solution that gives equal payoffs to both parties. But in the general case a good bargaining theory will realistically predict that the "stronger" party will obtain a larger payoff—while an arbitration theory expressing common standards of "fairness" will still tend to recommend an equal, or at least a less unequal, payoff distribution. Therefore it is impossible for the same theory to be both a good bargaining theory and a good arbitration theory.

A point closely related is this. As I have argued elsewhere,⁸ the moral standards of most of us require—whether we are aware of this fact or not—judgement of income distributions (payoff distributions) in terms of interpersonal utility comparisons. For this reason *arbitration theories* will have to rely on interpersonal comparisons of utility. On the other hand, *bargaining theories* that predict actual bargaining behaviour can be reasonably expected, like other parts of positive economics, to be independent of interpersonal utility comparisons, and therefore to yield solutions invariant with respect to order-preserving linear

⁶ Though the Nash-Zeuthen theory of bargaining does not depend on the influence of moral considerations upon the bargaining process, it does not necessarily exclude the possibility of such influence. Clearly, all moral attitudes that the two parties may have must be incorporated into their utility functions. The Nash-Zeuthen theory has to be applied to the two parties' utility functions when all of their attitudes and preferences—selfish or unselfish, moral or non-moral—which may influence their bargaining behaviour, have been fully allowed for.

⁷ In the sense of considering only his own utility function. But this utility function may possibly attach utility to altruistic, cultural, etc. interests the bargainer concerned has appreciation for (cf. previous footnote).

⁸ See my "Cardinal Welfare, Individualistic Ethics, and Interpersonal Comparisons of Utility," *Journal of Political Economy*, 1955, Vol. LXIII, pp. 309-321.

transformations of either player's utility function—an invariance property that the Nash solution does possess (this property is actually one of Nash's axioms).

II

I am now going over to discussing Wagner's criticism of Zeuthen's bargaining model. Zeuthen makes the following assumption.⁹ Suppose that at a certain stage of the negotiations the first bargaining party makes a certain offer A_1 while the second party makes a certain offer A_2 . Let p^* be the maximum risk (i.e., the highest probability of conflict) that the first party would be prepared to face in order to obtain the terms A_1 rather than the terms A_2 less favourable to him. Let p^{**} be the maximum risk that the second party would be ready to face in order to obtain, conversely, A_2 rather than A_1 . Then if $p^* < p^{**}$ it will always be the first party who will make the next concession while if $p^* > p^{**}$, the opposite will be true.

Wagner finds this assumption unsatisfactory on the ground that either party can improve his bargaining position by committing himself in advance to an uncompromising attitude. For instance, even if $p^* < p^{**}$ (which means that according to Zeuthen's theory the first player ought to make the next concession)—if the first player declares that he will make no further concession at all, and if he can convince the second player that he really means what he says, it will be rational for the second player to yield ground because he knows that this is now the only way of reaching an agreement. Thus the player who commits himself in advance to an unflexible policy may be able to achieve better terms than predicted by Zeuthen's theory.¹⁰

Now Wagner is no doubt right that committing oneself in advance to an uncompromising attitude is a very strong bargaining weapon. But it is a bargaining weapon that cannot be used against a really proficient player, let alone against the perfectly rational players envisaged by Zeuthen's (and Nash's) theory.¹¹

A player can preclude the use of this bargaining weapon against himself if he makes a prior commitment at the beginning of the game that he will always resist and disregard any attempt by his opponent to make use of this weapon. This is what must actually happen if both players are rational. For, committing himself in advance to making no further concessions cannot be used by both players at the same time as an effective bargaining weapon, as the use of this strategy by both players would necessarily result in a conflict. (In contrast, both players can simultaneously use the strategy of committing themselves to resisting the application of that bargaining weapon.) On the other

⁹ F. Zeuthen, *Problems of Monopoly and Economic Warfare*, London, 1930, Chap. IV.

¹⁰ Cf. also T. C. Schelling, "An Essay on Bargaining," *American Economic Review*, 1956, Vol. XLVI, pp. 281-306.

¹¹ Nash in his 1950 paper assumed "equal bargaining skill" on the part of both parties. In his 1953 paper he has realized that the assumption of perfect rationality is sufficient. Cf. Nash, 1953, pp. 137-138.

hand, neither player can rationally tolerate that the other player *alone* should use this bargaining weapon.

In general, no strategy can be regarded as admissible between two rational players which would inevitably lead to a conflict if both players were to make use of it. The strength of the Zeuthen-Nash bargaining theory lies precisely in the fact that it suggests strategies that both of two rational players can use without thereby setting off a conflict. By this means the theory brings in clear relief the fundamental *symmetry* of the bargaining situation with respect to two rational bargainers.

III

In my earlier paper¹² I have tried to show that Nash's and Zeuthen's bargaining theories are mathematically equivalent (except that Nash's theory covers a wider range of situations than Zeuthen's theory does in its original form). Wagner in his paper takes issue with this conclusion.

In Nash's model the two parties are assumed to start negotiations by making a *threat*, i.e., stating the strategies that each of them would follow in case no agreement could be reached.¹³ Let t_1 and t_2 be the two parties' threats and let $V_1(t_1, t_2)$ and $V_2(t_1, t_2)$ be the utility levels that the two parties assign to the situation where no agreement would be reached and where both parties would have to implement their threats. Moreover let $V_1(A)$ and $V_2(A)$ denote the utility levels that the two parties assign to a proposed agreement A . (For the sake of clarity I am using different notations from Wagner.) Then, according to Nash's theory the two parties will come to accept an agreement A such that maximizes the product

$$(1) \quad \pi = [V_1(A) - V_1(t_1, t_2)] \cdot [V_2(A) - V_2(t_1, t_2)].$$

The application of this conclusion to particular cases is simple enough. For instance, in the case of collective bargaining $V_1(A)$ and $V_2(A)$ would represent the utilities that the management and the trade union, respectively, would associate with some proposed wage rate—while $V_1(t_1, t_2)$ and $V_2(t_1, t_2)$ would represent the utilities that each of them would associate with a strike or lockout situation (as in this case the threats of the two parties would normally refer to a strike and/or lockout).

Wagner's interpretation of Nash's theory is different. He apparently argues that the product to be maximized in Nash's theory is

$$(2) \quad \pi' = [V_1(A) - V_1(S_2)] \cdot [V_2(A) - V_2(S_1)]$$

where $V_1(S_2)$ is the utility that the first party assigns to the second party's Stackelberg equilibrium point while $V_2(S_1)$ is the utility that the second party assigns to the first party's Stackelberg equilibrium point. This would mean, for instance, in the case of collective bargaining that $V_1(S_2)$ [or $U^L(N)$ in

¹² See footnote 4.

¹³ Nash, 1953, p. 130.

Wagner's notation] is the utility that the union would attach to the wage rate most preferred by the management, and that $V_2(S_1)$ [or $U^M(M)$ in Wagner's notation] is the utility that the management would attach to the wage rate most preferred by the union.

However, it is hard to see how this interpretation of Nash's theory can be maintained—for it would mean essentially that the threat that the union uses against the management as its main bargaining weapon is the "threat" of accepting the wage rate most favourable to the management, whereas the threat that the management uses against the union is the "threat" of accepting the wage rate most favourable to the union—a very peculiar interpretation of what a threat is.

My proof of the mathematical equivalence between Nash's and Zeuthen's theories is based on showing that Zeuthen's model also leads to maximizing the product defined above under (1). Zeuthen's model, of course, does not involve threats by the bargaining parties. But it seems natural to identify Zeuthen's "conflict situation" with the situation in Nash's model where no agreement is reached and where both parties have to carry out their threats. For example, in the case of collective bargaining both Zeuthen's conflict situation and Nash's threat-implementation situation would correspond to a strike and/or lockout.

In my original paper, I have analysed a situation where the first party's last offer has been A_1 while the second party's last offer has been A_2 , with $V_1(A_1) > V_1(A_2)$ but $V_2(A_1) < V_2(A_2)$. However, instead of the utility functions V_1 and V_2 I have used the functions U_1 and U_2 defined as the "net utility gains over the conflict situation"¹⁴ that the two parties would derive from a given situation. That is, in my present notation

$$\begin{aligned} U_1(A_1) &= V_1(A_1) - V_1(C) & U_1(A_2) &= V_1(A_2) - V_1(C) \\ U_2(A_1) &= V_2(A_1) - V_2(C) & U_2(A_2) &= V_2(A_2) - V_2(C) \end{aligned}$$

Of course

$$U_1(C) = V_1(C) - V_1(C) = 0 \quad U_2(C) = V_2(C) - V_2(C) = 0$$

i.e., in the conflict situation itself the "net utility gain over the conflict situation" is zero for both parties. Wagner has apparently overlooked my definition of these quantities as he objects to my making $U_1(C) = U_2(C) = 0$.¹⁵

Zeuthen's argument is based on the fact that if both parties try to maximize their expected utilities then the maximum risk (i.e., the highest probability of a conflict) that the first party will be prepared to face in order to obtain the terms A_1 rather than the terms A_2 less favourable to him will be¹⁶

$$p^* = \frac{U_1(A_1) - U_1(A_2)}{U_1(A_1)} = \frac{V_1(A_1) - V_1(A_2)}{V_1(A_1) - V_1(C)}$$

¹⁴ My paper, *loc. cit.*, p. 147. (Italics added.)

¹⁵ Wagner, p. 396.

¹⁶ For derivation of this formula, see F. Zeuthen, *op. cit.*; or my own paper, p. 148.

while the maximum risk that the second party will be prepared to face in order to achieve, conversely, A_2 rather than A_1 will be

$$p^{**} = \frac{U_2(A_2) - U_2(A_1)}{U_2(A_2)} = \frac{V_2(A_2) - V_2(A_1)}{V_2(A_2) - V_2(C)}.$$

(Cf. our argument in Section II above.)

Wagner surprisingly claims¹⁷ that this formula always trivially yields $p^* = p^{**} = 1$, which is clearly not the case. He also claims that if $p^* = p^{**} = 1$ this would mean that both parties would "always give in until they converge upon the same wage rate" (i.e., upon the same terms). Actually $p^* = p^{**} = 1$ would mean exactly the opposite, viz., that the two parties would never make any concession at all, as they would face *any* risk, including the certainty of a conflict, rather than make a concession. Wagner here has obviously forgotten his own definition of the p 's.

IV

To sum up, I have argued that the Zeuthen-Nash theory is not an "arbitration theory," giving criteria for a "fair" payoff distribution, but is a "bargaining theory" proper, predicting the actual bargaining behaviour of rational individuals. I have also submitted that Wagner's criticism of Zeuthen's bargaining model is inconsistent with the assumption that both bargainers are perfectly rational. Finally, I have tried to show that Wagner's objections to my proof of the mathematical equivalence of Nash's and Zeuthen's theories are based on a misunderstanding of Nash's theory and on other oversights.

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REJOINDER ON THE BARGAINING PROBLEM

Although it is ordinarily a privilege as well as a compliment to be able to express one's own thoughts on a serious subject, especially when challenged by a formidable opponent, I confess that in this case I have a certain misgiving, since the arguments of my colleague Mr. J. C. Harsanyi are seemingly based on a cursory reading of my previous article and on undiscerning interpretation of Nash's papers.¹ Consequently, I am obliged to devote a disturbingly large portion of this note to patiently guiding Harsanyi through my article; the remainder of the paper will be directed toward the more crucial aspects in the game theory approach.

Previously, (p. 380) I stated that my purpose was "to synthesize the interesting and valid conclusions from (the) separate approaches and to present a unified picture of the pure theory of bargaining to date." The exponents of

¹ Ibid.

² Needless to say, the present debate can only alert the reader to the points of contention; the serious student must refer to the original sources in the literature to resolve the issues for himself. Page numbers appearing in parentheses will refer to my original article and Nash's papers; the complete citations are given in Harsanyi's note. I recently had the opportunity to read R. D. Luce and H. Raiffa's excellent survey, *Games and Decisions*, Wiley, New York, 1957. Luce and Raiffa give a detailed critique of bargaining theory, Chapter 5 and 6, and take an intermediate stand between Harsanyi and myself.

the game theory technique, Nash, Raiffa, and Braithwaite, each present different motivations and rationale; Nash himself makes three tries at offering arguments for a solution. Lest the reader think that I was seriously misrepresenting the *common* themes in these authors' writings by my use of the adjectives "fair" and "reasonable," he may verify that *all three* game theorists employ these very words.² In the summary of my paper, (p. 397) I concluded that "the bargaining contract remains indeterminate unless we introduce some sort of arbitration or behavioral procedure based upon a given set of rules." This view is hardly that which Harsanyi attributes to me in the opening sentence of his note; if anything, it parallels his own dichotomous characterization of solutions to a conflict problem.

Harsanyi is evidently confused in his understanding of my discussion of Nash's axiom 7 (1950, p. 159) or equivalently V (1953, p. 137). I interpreted the axiom's implication as (p. 394) "the removal of 'irrelevant' contracts should not change the previous solution," and continued by saying that "on the surface this postulate seems reasonable"; such statements appear to be in general accord with Harsanyi's interpretation expressed in his note. But then in footnote 30, I suggested that in an arbitration scheme the implication of the axiom might produce a result which appears *unfair*; this conclusion also seems to be in general accord with Harsanyi's expressed opinion. The question remaining is whether this and the other postulates seem reasonable for a behavioristic theory, and we shall elaborate our opinion on this matter presently. (The criticisms, which already have appeared in footnotes 30 and 34, are easily formulated in behavioristic terms, and, consequently, will not be repeated here.)

Harsanyi and I have a substantive disagreement over the implication of Nash's axiom 8 (1950, p. 159) or equivalently IV (1953, p. 137). Somehow Harsanyi has mystic faith in being able to contemplate the existence of a "perfectly symmetric bargaining situation." Nash's postulate requires that when a two dimensional figure (p. 359) is drawn representing the set of utilities of the two players for the various outcomes and when by a linear transformation of the utility functions a symmetrical (with respect to a 45° line through the origin) geometrical figure results, then the outcome is at the intersection of the 45° line and the contract curve. First, note that the geometrical symmetry is easily destroyed by a linear transformation of either of the utility functions.³

² Nash, 1950, p. 158; 1953, p. 136, p. 138. Raiffa, p. 361. Braithwaite, pp. 5-6, p. 36, p. 40. (See Harsanyi's note for complete citations.)

³ The reader, unfamiliar with the fine points of game theory, might wonder why we concentrate on *linear* transformations of the utility function. Present day ordinal utility doctrines hold that in Edgeworth box type diagrams (Figure 1, p. 381) it is the shape of the indifference curves which is important and not the numbering system; therefore, any strictly monotonic increasing transformation of the numbering system is permissible, since the indifference loci are left unaffected. But the von Neumann-Morgenstern utility axioms are stronger than the ordinalist's axioms, and game theorists' assumptions produce a utility function which is unique up to origin and scale, in other words, unique up to a *linear* transformation only. Hence, economists who feel that the numbering system in the Edgeworth diagram should be irrelevant in the analysis of a conflict situation are in essence stating that they reject the game theorists' utility function, and, a fortiori, the various game theory solutions to the conflict problem.

Second, note that Harsanyi wants a bargaining theory to avoid interpersonal utility comparisons. What magical property is then to be associated with the symmetry point? Nash's rationale is obscure (if not question begging). Harsanyi, disclaiming a need for evoking moral considerations, chooses to argue that when geometrical symmetry can be produced, "neither player will be prepared to give his opponent better terms than he is given himself by the latter." But what are *terms*? How does one player weigh the *terms* he is offering against the *terms* he is being offered without making interpersonal utility comparisons? If both players realize that the geometrical symmetry is a fluke of the selection of the origins and scales for each of their utility functions, why should they think that this fluke should yield the reasonable solution to their problem?⁴

By the same token, what is the meaning of Harsanyi's notion "equally strong"? Harsanyi would have us believe that the Nash theory predicts the "stronger party will obtain a larger payoff"; I find this phrase difficult to interpret without succumbing to some sort of interpersonal utility comparison. By guising his arguments in connotative expressions, Harsanyi overlooks the anomaly in his own reasoning. Because the mathematics of Nash's approach implies that the solution is determined by "local" properties of the contract curve, a host of different utility configurations can be drawn, all having the same solution. Therefore, Harsanyi's conception of strength must have effect with reference to "local" properties. But how will one player manifest his "strength" when "ultimately the negotiation will be understood to be restricted to a narrow range of alternative deals and to be unconcerned with more remote alternatives"?⁵

Harsanyi has even miscomprehended the central thesis of my critique of Zeuthen's theory. Here I must draw the line in reprinting my own article because of space limitations, and I simply refer the reader to the original section for the detailed presentation (especially pp. 389-390). In brief, I argued that Zeuthen's probability calculations and comparisons are irrelevant to a player for the purpose of his selecting a good strategy, a conclusion which follows whether or not ultimatums are admissible courses of action. I was quite explicit (p. 370) in pointing out the strategic difficulties associated with the use

⁴Today when it has become fashionable to apply high powered mathematical methods to economic problems, often times with a view to removing restrictive assumptions in previous models, it is not uncommon for the analyst to overshoot the mark and make other assumptions which are equally as restrictive, although possibly in a more subtle vein. For example, part of the controversy between ordinal utility and revealed preference theory arose over one faction postulating the actual existence of indifference and the other side postulating the opposite. It is my feeling (and probably that of some of the other revealed preference exponents) that the truly unrestricted approach should be eclecticism (i.e., not rejecting either one situation or the other). A similar case is suggested by the "symmetry" axiom, where symmetry is defined according to some mathematical convention. As economists we may be reluctant to espouse a theory which inevitably produces mathematically unsymmetric solutions under mathematically symmetric conditions; however, such caution is not equivalent to a justification for a postulate that a symmetric solution should always result under mathematically symmetric conditions.

⁵Nash (1953), p. 138.

of ultimatums, and why they may not produce the desired effect (contrast this and the analysis in my previous paper with the conclusion that Harsanyi attributes to me in the second paragraph of his Section II).

Paradoxically, Harsanyi completely rejects the notion of an ultimatum as an admissible strategy in a bargaining theory, especially "against the perfectly rational players envisaged by Zeuthen's (and Nash's) theory"; but at the same time he extols Nash's inclusion of a "threat" in his bargaining theory, where Nash defines (1953, p. 130) a threat as "A threatens B by convincing B that if B does not act in compliance with A's demands, then A will follow a certain policy T." Nash was very careful to protect himself against such anomalies (1953, pp. 130-131, p. 136). We shall attempt to resolve below Harsanyi's puzzling ambivalence toward threats, demands, and ultimatums.

Harsanyi's misdirected argument concerning the employment of ultimatums forces us to take notice of his uncautious application of the term "perfectly rational." An economist typically attaches one of two meanings to the term: (first sense) the possession of a revealed wisdom, (second sense) the capacity for logically deriving correct conclusions from a set of premises or axioms. It is vacuous to attempt to dismiss—as Harsanyi does with respect to the employment of ultimatums—a type of action as irrational in the second sense, i.e., when it does not conform to a set of axioms, if the very axiom system is under question as being irrational in the first sense. It is my own feeling, and I imagine some other economists agree, that the utmost sapience on the part of each player is the revelation of the inherent indeterminacy of the conflict problem. Since, say, Nash's and Braithwaite's approaches in general lead to different points on the contract curve, why sagacity would dictate to *both* parties that one author's rationale is more reasonable than the other's seems hard to imagine.

I am amazed that Harsanyi was not able to read correctly my remark on the substitution of the opponent's last offer for the conflict point C in Zeuthen's formula (p. 396). Contrary to Harsanyi's allegation, I neither symbolically nor verbally stated that $p^* = p^{**} = 1$. I claimed that trivially $p = 1$ is the only value which satisfies U (opponent's last offer; 1) = U (own last offer, opponent's last offer; $1 - p, p$) in each player's utility function; I concluded that an extension of Zeuthen's rule for breaking tied values for p would result in both parties yielding.

I have left for the last contention the vital and subtle issue between Harsanyi and me, concerning the disputed proof of the mathematical equivalence of Nash's and Zeuthen's theories. We must be very careful here, because we are in danger of having the debate take a course observed in similar discussions in the literature in which each participant addresses himself to an essentially different question. I confess that in the first instance I am to blame for "muddling up" in my paper the notion of the solution of the non-cooperative game, the conflict point, and the threat point in the cooperative game (pp. 395-396). I fear from Harsanyi's note that he is still befuddled.

The difference of opinion between Harsanyi and me results from our failing

heretofore to distinguish—believe it or not—three structurally different models. In Nash's 1953 paper he first presents what he calls the Negotiation Model (1953, pp. 130–136) in which the notion of a threat point is prevalent; he then gives an Axiomatic Approach (1953, pp. 136–140), about which he says "the axioms . . . lead to the same solution that the negotiation model gave us; yet the concepts of demand or threat do not appear in them."⁶ It is a version of Nash's axiomatic approach that appears in my paper. Consequently, Harsanyi is in error in attaching (or suggesting that I attached) a "threat" interpretation to the normalizing of the utility functions at the values of the Stackelberg solutions.⁷ Why I suggested this normalization will be repeated in a moment.

Harsanyi has failed to realize that my criticism of his making the conflict point the origin for the utility functions was directed at *why* and not *how* he did this (actually I used the same type construction myself).⁸ Even the tyro mathematical economist can deduce from Nash's 1953 paper the all-importance to the solution of where the origin for the utilities are located, and further what a mathematically complicated analytical question is generally involved. Harsanyi's only assurance is that "it seems natural (or 'normal') to identify Zeuthen's 'conflict situation' with the situation in Nash's model where no agreement is reached." Nash appeals to the celebrated Kakutani topological fixed point theorem (as generalized by Harsanyi's and my colleague Karlin) to prove the existence of his result (1953, p. 135); we might at least expect more from Harsanyi than an "it seems natural" to suffice for a proof of his conjectured equivalence.

Nash demonstrates that the solution to the axiomatic approach is identical to that of the negotiation game, and, therefore, being a sophisticated mathematician, he substitutes the rigor of his previous arguments for plausible reasoning concerning the zero point for the utility functions in his handling of the axiomatic model. Accepting Nash's lead, we are required to demonstrate whether or not the Zeuthen conflict point is indeed the threat point in the negotiation model between union and management. Before we can attempt such a demonstration, it is obvious that the definition of a threat must be clarified.⁹

⁶The above quotation may answer the paradox in Harsanyi's paper and note in which he rejects the idea of an ultimatum but accepts the concept of a threat, which Nash defines with reference to a demand in the negotiation model. Despite Nash's avowal that his two models are conceptually different, Harsanyi has found it to his liking to discard the demand notion, but to retain the term "threat" and continue to use it in the axiomatic approach (without alerting his readers to this practice).

⁷I am somewhat puzzled by Harsanyi's peculiar verbal rendition of a Stackelberg point "the utility that the union (management) would attach to the wage rate most preferred by the management (union)"; at best, such wording is misleading.

⁸In case the reader is still wondering about the legitimacy of Harsanyi's manipulations yielding "net utility gains," we point out that all Harsanyi has done (which he himself could have stated directly and simply) is to make an admissible linear transformation on the utility function $aU + b$, where $a = 1$ and $b = -U(C)$.

⁹The phrase "threat point" is unfortunate terminology for the student trying to fathom the meaning of Nash's construction, since for the cursory reader the term evokes the impression that each player pays attention to the harmful effects resulting if the threat were

Mayberry, Nash, and Shubik¹⁰ are quite clear in their treatment of a duopoly game as to what they mean by a threat, viz., the quantity of output which each firm would produce if the negotiation model demands are incompatible. What is the nature of a threat in a labor-management game? One thing is clear, a threat must be a course of action which can be taken in a non-cooperative situation, i.e., an action which is possible regardless of what the opponent does (of course the *utility* of the final outcome is a joint function of the two players' strategies). Nash circumvents any detailed discussion of the outline of a non-cooperative situation by saying (1953, p. 129) "by beginning with a space of mixed strategies instead of talking about a sequence of moves, etc., we presuppose a reduction of the strategic potentialities of each player to the normal form." In other words, the Nash utility diagram represents all possible outcomes from any conceivable sequence of moves in the game. In my paper, I used an idealized delineation (Figure 6, p. 391) of the courses of action open to each party in one possible version of a non-cooperative situation. By the very nature of the normal form construction, playing of this non-cooperative game must be imbedded in the complete list of possible strategies defining the two dimensional utility diagram; similarly, if instead, Harsanyi's implicit version of the non-cooperative game were truly applicable, it would be included in the normal form strategies.

In my non-cooperative model, it can be seen that a conflict can only arise if *both* parties select a particular strategy; thus, as I visualized the situation, "it takes two to conflict." Under this model, we can easily construct examples where the two strategies leading to a conflict do not represent the threat point in Nash's negotiation game; such examples are based on the fact that Nash's solution depends on local properties of the contract curve.¹¹ If, on the other hand, the non-cooperative game is such that each player can effect a conflict solely by his own action, then, as we shall indicate, the conflict point is the threat point. The practical distinction between the two non-cooperative games is of more than minor significance, as relatively recent legislative developments in United States labor law indicate. Today it is legally obligatory for management

carried out. Actually each Nash player at most gives only transient consideration to the utilities of the threat point; what are important to him are the utilities of the *final* outcome on the contract curve. Since the latter utilities are determined by the location of the threat point, each player chooses his threat—in full knowledge that he will never (except in degenerate cases) end up at this point—with a primary view toward the ultimate outcome. In short, each "perfectly rational" opponent in deciding his threat plays a game of "let's pretend."

¹⁰ "A Comparison of Treatments of a Duopoly Situation," *Econometrica*, Vol. 21 (1953), pp. 111-154.

¹¹ For example, suppose the contract curve is represented by the equation $4(U^M)^2 + (U^L)^2 = 16$ in the non-negative quadrant, where the conflict point is the origin of the axes, $M = (2, 16)$, $N = (1, 19)$, and $H = (1.74, 18)$ (the first coordinate refers to the union's utility, and the second coordinate to management's utility). Using the conflict point C for the Nash construction, the solution yields $U^L = 2.8$, $U^M = 1.4$. But management can assure itself at least 16 by playing its strategy H in the non-cooperative game; hence, the conflict point is not the Nash threat point in this case.

and the union to bargain collectively; neither party has unilateral power to cause a conflict by a refusal to bargain. Consequently, each participant must make an offer, and the opponent always has the option of accepting the offer. Therefore, I criticized Harsanyi on his unquestioning identification of Zeuthen's no contract point and Nash's threat point; depending on the particular underlying non-cooperative game, or more precisely, on the specific range of possible threats, these two points simply need not be the same.

Now suppose that each player does have the threat of unilaterally causing a conflict. Since for *any* pair of threats, the corresponding final solution (by the Nash axiom system) is on the contract curve, each Nash player can assure himself the utility on this locus associated with a normalization at the conflict point. In general, any other threat, i.e., some point off the contract curve, would imply that the final solution on the contract curve would make *one* of the parties worse off than if he threatened to conflict, and, hence, would not constitute an optimal threat point for *both* parties.¹²

When I suggested that the origin for the Nash solution be at the Stackelberg utility levels, I gave the erroneous impression that my suggestion was equivalent to Nash's model. What I should have made clear was that I was presenting the Nash construction *after* the origin for the utility functions had been determined. On the basis of the particular non-cooperative game in my paper, I recommended the Stackelberg utility levels normalization, since they were equivalent to the maximin utilities in my non-cooperative game, and a fortiori, were maximal utilities each player could guarantee himself regardless of his opponent's action and whether or not they played according to Nash rules.¹³

As a final comment—and maybe now I too am deceived by connotative phrases—I find it hard to believe that a model which seems unfair to *us* as an arbitration theory can serve as a framework for bargaining theory, which purportedly reflects a mode of behavior acceptable to *both* players. Evidently Harsanyi does not share my dubiety.

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¹² The exceptions to this statement lie on a line through the conflict point and the Nash solution point.

¹³ My suggestion follows that of Shapley; see Luce and Raiffa, *op. cit.*, pp. 137-140, for a discussion of the procedure.

BOOK REVIEWS

Mathematical Economics. By R. G. D. Allen. New York: St. Martin's Press, 1956. Pp. xvi, 768. \$10.00.

It is notoriously difficult to write a good book review; such a review should give a sound idea of the contents of the work, should show how it fits into the existing literature, in what way it advances the field it deals with, and finally the reviewer may give his own opinion about the whole matter. Too many book reviews consist in telling the author that he should have written an altogether different book which the reviewer would have preferred but which for some miraculous reason the reviewer never found the opportunity of writing himself.

In the present case, it should not be too difficult to fulfill these requirements because Allen's book is quite unique and it would take a daring person indeed to suggest that a different work would be preferable. First, let me say that the achievement of the author is very impressive: this tremendous volume contains, in a most agreeable form of presentation, the essential parts of contemporary mathematical economics together with a good deal of the mathematics proper, which, in conjunction with the development of the field, has been used or, more important even, has been developed simultaneously with the economic problems themselves. The book is a textbook with many valuable examples and questions appended to the individual chapters. The author does not include much material from his own researches, but he somehow shows that particular parts of mathematical economics are more to his liking than others (this holds especially in regard to the work done at the London School of Economics on control systems). He does not occupy himself with econometrics, which would, indeed, have meant the addition of so much material that the book would have become quite unwieldy (it is at the borderline of being so even now). However, it is unfortunate that the numerical evaluation of the various techniques has not been stressed. The tremendously important aspects of the new computational possibilities offered by electronic computers are thus almost completely lost. Allen states in his preface that he wishes to stay "as close as possible to economic problems of the real world." The numerical solution is the best check in that regard and there are some doubts whether he has actually succeeded in staying close to the real world, a point to which we shall return below.

Turning first to the mathematics of the book, one finds the author in the dilemma that he cannot deal with all the mathematics now of importance for economics and that he cannot treat those he includes in his work as fully and as rigorously as is desirable. This is, of course, a well-known difficulty and it is doubtful that anyone will ever overcome it to everybody else's satisfaction. Allen has six chapters (in this order) on complex numbers, linear differential equations, linear difference equations, vectors and matrices, matrix algebra and applications, some of which deal with economic applications. Out of about 750 pages, this material occupies approximately 250 pages. Differential equations still take up considerable space, although economics is rapidly developing

away from ideas where they are useful. Although there is some treatment of convex sets (strangely enough, *after* his treatment of game theory and some discussion of linear programming), there is nothing at all about set theory, axiomatics, graphs, Boolean algebra or groups, all of which will eventually overshadow the conventional infinitesimal calculus still emphasized so much in current teaching and in the ordinary textbooks even when they use few, if any, formulae and rather restrict themselves to the conceptual.

The mathematical chapters are good and competent as far as they go, but the strength of the book does not lie there. The author, wishing to give as much of the necessary mathematical background as possible, tries to convey much and in doing so has to skip over difficulties, over some proofs, etc. Also, he employs in some parts a notational system (especially regarding vectors and matrices) which does not conform to the most modern ideas and is quite different from the contemporary American and Continental usage. It is impossible to judge whether he is completely successful in teaching the necessary mathematics since this depends on the background of the students. Clearly, only a person already reasonably familiar with a fair amount of mathematics will be able to work through these chapters. Yet such a person might do much better to skip these sections of the book altogether and get their content elsewhere. For a large part of this he may study the brilliant book by R. M. Thrall and L. Tornheim: *Vector Spaces and Matrices* (New York, 1957) and the equally distinguished work by Kemeny-Snell-Thompson: *Introduction to Finite Mathematics* (New York, 1957) which will in particular fill most of the above-mentioned gaps. Of course, these books together are more voluminous, but it is mostly their spirit which I find more appealing and a student may very well react as I do in this respect. The teaching of the mathematics the future economist will have to know cannot be accomplished in a book of this kind, if only because of the rapid changes in the mathematical outlook that has been initiated within the last two decades—a process that is far from concluded. It is unfortunate that this book does not give an explicit account of this profound and exciting transformation. A little less of pure formalism and much more on the logical-conceptual side would have been desirable and have given the reader a better insight into the structure of a mathematical theory and the necessity for establishing a firm body of mathematical economics.

Turning now to the major part of the book, its economic contents, one observes that there is in essence a division into two sections: *first*, there is the discussion of the accelerator, the multiplier and of the control systems—with some attention paid to trade cycle theory; *second*, we have the general equilibrium ideas, input-output, linear programming with theory of the firm, game theory, utility theory, and such more special, although fundamental, problems as that of aggregation. Of these two parts, the second is definitely better, although there are some gaps presently to be noted. The first part is, in a strict sense, much more physics than economics, more specifically: eighteenth century mechanics; but that is what much of economics has always been, with its notions of stability, etc. The acceleration principle plays a dominant role in this treatment, although

the few empirical studies of its validity throw grave doubts upon it. But it is so nice to have it around, to combine it with the empirically equally doubtful multiplier! Thus, it will be with us for a lot longer. As to "stability": again it is so desirable to make seemingly precise statements about it, although we cannot even as yet—on the basis of far more empirical knowledge—prove the stability of the orbit of the moon. These remarks should, of course, not detract from Allen's treatment in these chapters. It is excellent, comprehensive, and will enable the student to become completely familiar with those main streams of current thought.

In the second part, starting with Chapter X on General Economic Equilibrium, work is discussed where at present perhaps more energy is being spent by economists than on the first part. This may account to some extent for the greater freshness of the treatment which it appears to possess (at least, to this reader). Again, everything is done with highest competence and it shows the great didactic-expository skill for which Allen is justly famous. The few points I have to make are rather matters of emphasis or omission. There is, strangely enough, no mention of A. Wald's work which, to my mind, ushered in a new period in equilibrium analysis and, in particular, in its mathematical treatment. Furthermore, Wald's work has generated many more investigations and its influence is far from spent. True, his original publication is too difficult for the level of this book, but Wald himself has given a simpler account (with further applications) which is quite accessible to readers of Allen's book. Wald's investigations constitute a break in the level of mathematical analysis and have raised the sights, demanding (and giving) proofs where thus far only assertions had been customary. In the input-output analysis part, some consideration of the profound studies of Y. K. Wong would have been desirable inasmuch as they throw sharp new light on the properties of the matrices occurring there and relate these to the computational processes which are so essential in this field. Game theory is given an entire chapter, but it is restricted to 2-person zero-sum games. The presentation is useful, although the student may have difficulty in distinguishing precisely between a move, a strategy, the extensive and the normalized form of the game. Also, it should have been possible to give one of the simpler proofs now available of the minimax theorem which is so important, not only for game theory, but in many other areas of increasing interest to the mathematical economist. The author has neglected to show to the reader that game theory is intended to be a model for the description of economic behavior to replace the conventional approach. This could at least have led to the elaboration of the observation that in typical economic situations the individual does *not* control all the variables on which the outcome of his behavior depends. As a consequence, the individual (person or firm) is not confronted with maximum problems but with something conceptually different, a situation not treated in classical mathematics, much less in current economics, but which game theory is designed to deal with rigorously.

Linear programming is given considerable attention up to and including the simplex method. Activity analysis is carefully presented together with mathe-

mathematical tools (convex cones, etc.) not previously provided in the book. The remark (p. 599), however, that the determination of the separation of scarce and free factors is a *novum* due to activity analysis is hardly justified, since this was exactly the starting point for Wald and von Neumann. The latter's tremendously important model of an expanding economy is briefly described; but I do not understand what Allen means when he says (p. 602) that it is an "application" of linear programming. In fact, it antedates the latter! Furthermore, it can be generalized (as was done by Kemeny-Morgenstern-Thomson, *Econometrica*, Vol. 24, 1956, after Allen's book was already in the printer's hands) so as to comprise even the dynamic Leontief system as a simpler, special case. This generalization, incidentally, involved a new use of game theory, making the above remarks about that theory even more pertinent.

Finally, a word about the chapter on value, a field in which the author himself has done original work. No wonder, then, that here there is a fine representation of ordinal utility, the substitution and income effects. There is also a section on measurable utility in which the proposal by von Neumann and the reviewer, regarding the consideration of certain and uncertain prospects, is described, which has led to an axiomatic treatment of a numerical utility. While Allen states on the one hand that the current ordinal treatment of the concept of utility will remain the basis of the analysis of consumer demand, he also says, on the other, that the other utility concept (for risk-taking situations) has applications "at least as extensive as the theory of games." I find it hard to reconcile these two views and, while I naturally believe that the numerical utility will eventually terminate the current ordinal treatment, I am also convinced that game theory is an event of a totally different magnitude than the new technique for measuring utility.

Summarizing, I would like to reiterate that this is a very impressive book, a good book, and a very useful one. The author deserves admiration for the skillful presentation of what must have been a formidable amount of work. This book will far transcend the influence a good textbook sometimes exercises; it pulls together so many different strands of thought and development that it cannot help but to influence future work by enabling the student of mathematical economics to get a better perspective of the different tendencies now being pursued. Furthermore, the book is written in a pleasant style and is in no way "dry." Had it pointed more towards the future, indicating where the unsolved problems lie, thereby stimulating the interest and the imagination of the young readers, it would probably accomplish even more. Together with this would have gone a greater stress on the *new* mathematics that are being developed for the social sciences, a development which will ultimately lead to a profound transformation of the body of "mathematical economics."

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Towards a More General Theory of Value. By E. H. Chamberlin. New York: Oxford University Press, 1957. Pp. vii, 318. \$5.00.

This collection of sixteen essays, of which four are new, appears almost exactly twenty-five years after the publication of the first edition of *The Theory of*

Monopolistic Competition. And in it, Professor Chamberlin clings tenaciously to his basic proposition that monopolistic competition is more "realistic" than neo-classical theory—because the assumptions on which it is based correspond more closely to the facts of life. And given the greater "realism" of monopolistic competition, he is hard put to understand the coolness (one might even say, the hostility) displayed toward monopolistic competition by many general economists.

But "realism" is a relative matter. And, therefore, when Professor Chamberlin suggests that neo-classical theory is based on insufficiently realistic assumptions he means, presumably, that those assumptions are insufficiently realistic *relative to the purposes* he conceives economic theory should serve.

Unhappily, Professor Chamberlin does not tell us what he thinks those purposes are or should be. One can only wish that he would: for, if he did, a substantial portion of the controversy which has grown up between him and, e.g., "The Chicago School" would doubtless disappear. In any case, because he does not do so, he seems to be arguing that neo-classical theory should yield to the theory of monopolistic competition simply because it (neo-classical theory) bears a less close resemblance to the real world.

But Professor Chamberlin cannot really mean this. Whether one theory is "better" than another obviously depends on the purpose at hand. Are we interested in what will happen to the consumption of liquor if the excise tax is raised by x percent? Or in what will happen to the consumption of cars if the price of gasoline is raised by y cents? Or in the secondary effects, if any, on other means of transport? Or in the economic consequences if the Textile Workers or the Garment Workers succeed in obtaining a wage increase of z cents an hour? Professor Chamberlin may consider it unrealistic to talk of cars, liquor, gasoline, textiles and clothing but, given the way problems of this kind normally present themselves, what alternative do we have? And obviously each of these problems requires the use, in one way or another, of industry supply and demand curves. Clearly, therefore, the less "realistic" theory is not merely better here—it is indispensable.

Professor Chamberlin is, of course, sensitive to these difficulties. For example, on page sixty-eight he says (note 23) that "there is urgent need for examination of the variety of criteria by which areas intermediate between the firm and the whole economy may be meaningfully defined." But, unhappily, all that the theory of monopolistic competition actually gives us for the purpose is the concept of cross-elasticity of substitution. But this concept does not meet the need—simply because there is no way of giving it empirical content—except on the basis of hunch and instinct—that is, except on the basis of what we deem to be essential resemblances among products in terms of the purposes they are designed to serve. But if we group products in this way, we are simply using the notion of an industry in much the traditional way. It is of course obvious that Professor Chamberlin has made us much more conscious of the pitfalls and difficulties in this kind of analysis and of the kinds of qualifications to which our conclusions are necessarily subject. But the basic problem remains: in dealing with "group" or "industry" problems we have no alternative but to fall back on traditional

techniques—techniques which emphasize the *similarities* among the products in a particular group rather than their differences. Obviously, if we insist too hard on the importance of the differences we are left with no tools with which to deal with problems of this type.

The question then is: Are the differences so important that the traditional techniques are of little or no value, and must we therefore accept Professor Chamberlin's implied alternative—to abstain altogether from this type of analysis until such time as more satisfactory tools become available?

In this connection, one may perhaps be allowed to wonder whether it is not product *standardization* rather than product differentiation which is really the new thing. The very widespread use of mass production methods has undoubtedly introduced much greater basic homogeneity into many of the various classes of consumers' goods than prevailed fifty years ago. And consumers are not nearly so dull as some people seem to believe: they are becoming increasingly sensitive to the "real" qualities of the things they buy and therefore much more sensitive to small changes in relative prices. If this is so, perhaps as economists we have less reason to be diffident and embarrassed about the tools which perforce we must use in dealing with day-to-day problems larger in scope than the individual firm but smaller than the economy as a whole.

Now, Professor Chamberlin's ideas have always been essentially very simple and they obviously contain a substantial element of truth: real situations are always a blend of monopolistic and competitive elements. The producer of a differentiated product has a degree of freedom to raise price. This freedom will vary depending on the proximity and availability of substitutes. The producer in the real world not only experiments with changes in price, he also experiments with changes in his product and with the level of his selling outlays. Professor Chamberlin has shown us in a very interesting and ingenious way how the individual firm achieves equilibrium through the manipulation of these variables.¹ And Professor Triffin has carried the matter to its logical conclusion by showing that, under conditions of monopolistic competition, we have only the individual firm on the one hand and general equilibrium on the other.

The question then is: What are the implications of these ideas? In what sense and in what ways are they useful? These are not easy questions to answer. The theory of monopolistic competition is in essence a theory of the individual firm and its principal fruit has been, naturally enough, an increase in our understanding of certain heretofore neglected aspects of the behavior of the individual firm. And it has brought these aspects of the behavior of the firm within the framework of the equation $MC = MR$.

The theory has also had some vogue in anti-trust affairs and has been extensively used (some people might say "mis-used") by defendants under the Sherman Act and their counsel. And the courts now tend, doubtless as a result of the theory, to favor a broader rather than a narrower construction of the

¹The theory has undergone a reformulation in which, *inter alia*, the group has been abandoned. See the third essay, "Monopolistic Competition Revisited," p. 43 *et seq.* and especially p. 68.

anti-trust laws (see for example, the Du Pont cellophane case and especially Judge Medina's opinion in the Investment Banking case). Thus, the theory has had some impact on public policy.

In addition, the theory has doubtless been of great use to students of the dynamics of particular industries. And it has perhaps also shown us one of the many ways, product differentiation, by which change enters the economy.

But, in general, the impact of the theory has not been overpowering—although its influence has been pervasive, perhaps much more so than Professor Chamberlin himself is inclined to believe. The impact of the theory has not been overpowering simply because, strictly construed, it would deprive us of the few tools we have for dealing with problems larger in scope than the individual firm but smaller than the economy as a whole. And these tools when used with skill and care are capable of producing useful results.

The conclusion must then be that the great contribution of the theory has been the breaking of new ground. It is unfortunate that no serious attempt has been made to carry it forward to the point at which it would be really useful for dealing with "group" and "industry" problems.

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Essays in the Theory of Economic Growth. By Evsey D. Domar. New York: Oxford University Press, 1957. Pp. x, 272. \$4.50.

With one exception, this volume is comprised of reprints of Professor Domar's contributions to the "theory of economic growth" that have appeared in the leading journals over the past decade. The one exception, "A Soviet Model of Growth," published here for the first time, is a critical exposition of a growth model developed around 1928 by the Soviet economist G. A. Feldman. To anyone interested in abstract growth theory, this volume should serve as a valuable addition to his library, bringing together some of the more important of the scattered writings plus a new essay by one of the contemporary contributors to this branch of economics.

Although economists have long been concerned with the problems of economic growth, the development of the *formal* models by and large had to await the Keynesian savings-investment analysis. And, of course, Professor Domar is among the pioneers of the formal models.

The basic purport of the Domar (and Harrod) approach is that we must include growth elements in our macro-economic analysis, and this means that macro-economics becomes "dynamic." Briefly, but I hope accurately, Domar's basic thesis reduces to this: With the economy at a full employment equilibrium, both aggregate demand and aggregate supply must grow in a balanced fashion if the equilibrium is to continue. But this only raises the basic issues—for an increment in investment does more than create an increment in income (via the familiar multiplier effect); it also adds to the productive capacity of the total economy. If the full employment equilibrium is to be maintained the increment to income must be, given the propensity to save, sufficiently large to utilize the net addition to total productive capacity. Otherwise excess capacity will ma-

terialize; and so will unemployment materialize since Domar arbitrarily identifies full employment of the labor force with full utilization of the productive capacity. Since, moreover, he assumes a constant capital coefficient, income must grow at a constant rate in order for the equilibrium to be maintained.

Domar's analysis is, of course, much more detailed and thorough than the preceding summary might indicate. Except for some rather confusing definitions, I have only one basic objection to his analysis. This objection may be developed with reference to one aspect of Domar's analysis, and then in turn expanded to a more general methodological criticism.

Domar defines productive capacity as "... the total output of the economy at what is usually called full employment (with due allowance for frictional and seasonal unemployment), such factors as consumers' preferences, price and wage structures, intensity of competition, and so on being given" (p. 87). Yet an integral part of his analysis is that productive capacity changes at a constant rate. It seems highly unlikely, however, that with productive capacity changing, either at a constant or some other rate, consumers' preferences remain unchanged (*viz.*, new products and product quality changes), that price and wage structures remain constant, and so on. Rather, these elements will be changing along with productive capacity, so much so in fact that the latter becomes extremely difficult to define. Moreover, changes in productive capacity take on a qualitative as well as a quantitative aspect, and this will influence the rate at which productive capacity changes. Nevertheless, Domar sticks to his simplifying assumptions.

In the more general sense, Domar bases most of his analysis on assumed constancies of important variables, e.g., the propensity to save, the multiplier, and, as noted above, the capital coefficient. In the Domar model the economy grows at a constant rate from time period to time period. However, in the real world the variables do not assume constancy, but rather are subject to volatile, often unpredictable, changes. Thus, on these grounds, the usefulness of the analysis for short-run policy purposes may be questioned. Domar, of course, is dealing with long-run relationships, and much of the data indicate that the propensity to consume and the capital coefficient have been relatively constant over the long-run, at least in this country. But policy makers are concerned with the short-run, as well as with the long-run, and at any one time these variables may have values that diverge considerably from their trend lines.

Although I prefer the approach of the less formalistic growth theorist, such as David McCord Wright, to the more rigid, formalistic approach of Domar's, this must not be interpreted to mean that I feel that the Domar analysis is sterile. Far from it; for not only has it raised new issues, it has also restated old ones in a refreshing manner. The analysis moreover has also served to refocus attention on economic growth and in this respect is highly welcomed. It may be true, as Domar says (p. 34), that he prefers to work on his end of the bridge, and "Professor Wright will probably start from the other end. Perhaps we will meet in the middle some day."

University of Oklahoma

LOUIS A. DOW

A Theory of the Consumption Function. By Milton Friedman. Princeton: Princeton University Press for the National Bureau of Economic Research, 1957. Pp. xvi, 243. \$4.75.

In this careful monograph Professor Friedman proposes a consumption function which seems logically sound, consistent with empirical evidence, and a very useful tool in research and in policy making. It is a matter of common observation that people who get windfall gains do not increase their consumption spending as much as people who get similar increases in their regular incomes. It is also true that sudden loss of income through unemployment does not curtail spending as much as income falls. Therefore Friedman's suggestion seems quite reasonable that we conceptually separate current or "measured" income into two components: "permanent" and "transitory." Friedman admits that the concept of "permanent income" is "hard to define precisely" (p. 221). Similarly, "the above identification of a windfall with transitory income is not precise" (p. 28). A rough translation of the two terms might be "expected to continue" and "expected to be temporary." How far ahead does the individual look in making such a distinction between types of income? Not forever, as the adjective "permanent" might seem to suggest. "A number of different pieces of evidence," says Friedman, "support the highly tentative conclusion that the horizon so defined is about three years" (p. 221).

After making a similar division of current consumption into "permanent" and "transitory" elements, Friedman presents his hypothesis that permanent consumption is a constant fraction of permanent income for all ranges of that income. The size of the fraction itself depends on two major variables: the interest rate and the ratio of wealth to income, and upon several minor ones including the degree of uncertainty attached to the receipt of income, the number of members of the consumer unit and their ages. Cultural differences ascribed to national origin and "race" are also noted. The final part of his hypothesis is that "the transitory components of income and consumption are uncorrelated with one another and with the corresponding permanent components" (p. 26).

The major portion of the book is devoted to testing the consistency of this permanent income hypothesis with existing evidence in budget studies and time series data. These lead him to conclude that during the past 60 years in the U. S. the basic ratio has remained "from .90 to .95 for wage earners, from .80 to .90 for entrepreneurs, probably close to the lower end of this range for non-farm entrepreneurs and to the middle or upper end for farmers" (p. 227). For the country as a whole it has remained at about .88. Deviant years are attributed to changes in the major variables noted above, to differences in the way data were gathered and classified, and to "the nonrepresentativeness of the samples or errors in recorded responses rather than a characteristic of the population" (p. 49).

It should be noted that Friedman's consumption function dealing with "permanent" components does not contradict the frequently observed relationship between current income and current consumption. Lower income families save a smaller proportion of their current incomes than do higher income families.

Friedman would say that many low income families have a permanent income horizon that exceeds their measured income. At the other end are those with frequent large transitory components in measured income and a high wealth-income ratio. Keynes was right in his observation about the behavior of people in different income groups. His mistake was in reasoning from the particular to the general in this matter, a logical fallacy which he saw clearly in other connections. Positive and negative transitory elements generally cancel out in aggregate income and aggregate consumption data for a country as a whole. Only the constant relation between permanent consumption and permanent income remains, as statistical studies of Kuznets and others have shown despite Keynes' prediction to the contrary.

The "secular stagnation" thesis of Keynesians is seriously undermined by Friedman's analysis since "there is no reason to expect the savings ratio to rise with a secular rise in real income" (p. 237). Therefore we do not need to try to raise the average propensity to consume by more progressive taxation and other income-levelling devices. If we accept the income-expenditure theory of income fluctuations (Friedman has reservations), we must recognize that the multiplier effect of changes in investment will be smaller than generally assumed, "only about 1.4, and this takes no account of the stabilizing effects of the progressive personal tax structure, corporate taxation and savings, and the like" (p. 238).

Implications for further research in this field are clearly stated. The author hopes that supporters of the relative-income hypothesis will recognize it as a special case of the permanent income hypothesis, valid under certain conditions. The wealth-income approach of other researchers in this field has been included in Friedman's general function. The reviewer remains unconvinced of the significance of one of the variables, the interest rate. However cogent Friedman's *a priori* analysis appears in its mathematical dress, the volume presents no supporting empirical evidence and the whole argument requires the assumption of an incredibly rational and carefully calculating economic man.

Rollins College

ROBERT B. PETTENGILL

The Political Economy of Growth. By Paul A. Baran. New York: Monthly Review Press, 1957. Pp. x, 308. \$5.00.

Professor Baran sees the key to economic development in the use made of society's "economic surplus," particularly *potential* economic surplus—the excess of maximum achievable output over "what might be regarded as essential consumption" (p. 23). A "rationally ordered society" would end capitalism's waste of potential surplus in production of "armaments, luxury articles of all kinds, objects of conspicuous display and marks of social distinction" and in the activities of "clergymen, lawyers . . . , advertising agents, brokers, merchants, speculators, and the like" (pp. 32-33)—even beauty parlors (p. 19n.). "The establishment of a socialist planned economy is an essential, indeed indispensable, condition for the attainment of economic and social progress in underdeveloped countries" (p. 261).

So far, progress has been slow, for which "the 'unreformed' nature of contemporary imperialism and its inherent animosity towards all genuine initiative at economic development on the part of the underdeveloped countries" (p. vii) are to blame. Imperialists drain away much of the potential economic surplus of the backward countries in the form of outrageous profits on investment. Theories about Malthusian dangers and about the advisability of capital-sparing production processes in countries short of capital and long on labor form part of a "now fashionable campaign to prove 'scientifically' that the backward countries should 'go slow' (or, better still, not go at all) in the direction of industrialization and economic development" (p. 288). Economic obfuscation is bolstered by "religious obfuscation" and an "effort to strengthen the sway of religious superstitions" (p. 253). Lately the imperialists have resorted to economic aid as a "scheme of 'bribing' the peoples of the underdeveloped countries to refrain from overthrowing the existing system and from entering the road to rapid economic growth. . . ." (p. 13).

Baran bewails not only the plight of backward countries but also "the waste, irrationality, and cultural and moral degradation of the West" (p. viii). He exhorts Western socialists to renew their "dedication to the cause of reason, progress, and freedom" (pp. viii-ix). "Monopoly capitalism" suffers—as shown by the Keynesian analysis and by the growth writings of Domar, Harrod, and Colm—from "a growing inadequacy of the volume of private investment outlets," "a strong tendency towards stagnation," and an incapacity for sustained economic growth (pp. 7-11 & chap. 3). Thus "it has to rely in the main on military spending. . . . To secure popular acceptance of the armaments program, the existence of external danger has to be systematically hammered into the minds of the people. . . . incidents are provoked to lend a basis to the cultivated fears, to give substance to the systematically sustained hysteria. . . . opportunities for major or minor police actions offer themselves all the time" (pp. 129-130). Fearing thermonuclear total war, however, "monopoly capital's responsible statesmen" prefer "the atmosphere of danger to danger itself" (p. 132). Of course, "the Soviet Union has no intention of attacking capitalist countries" (p. 257).

An embarrassed preface mentions Hungary, Poland, and Khrushchev's revelations about Stalin and blames misdeeds not on *socialism* but rather on "the *political system* that evolved from the drive to develop at breakneck speed a backward country threatened by foreign aggression and in face of internal resistance" (p. viii). This is an odd distinction to invoke on behalf of a type of social organization whose defining characteristic is an interweaving and centralization of economic and political power.

In a methodological aside, Baran alleges an "inherent incapacity of bourgeois economics to penetrate the subject matter of its investigation. Crudely tearing asunder a historical phenomenon, turning away from the complex whole in order to see better its much simpler parts, it arrives at statements which, even if partaking of truth with regard to the parts, constitute falsehoods with regard to the whole. For a historical phenomenon is inseparable from what represents its inevitable outgrowth" (pp. 217-218). Furthermore, "the stand-by cate-

gories of bourgeois economics, 'scarcity of resources' and 'shortage of capital,' ... become fictitious in the phase of monopoly capitalism and imperialism" (p. 243n). (The immense, and undeserved, compliment to "capitalism" implied by this remark is apparently unintended.) Baran studs his book with disparagements of bourgeois economics as "unhistorical" and with cryptic allusions to "the dynamics of the historical process," "the historical dialectic," "historical laws," "the changing realities of the historical process," "different phases of capitalist development," "thinking in terms of historical change and development," and "a forward-looking historical view." The vogue such slogans still enjoy among certain economists makes a search worth while for whatever light Baran may shed on their meaning. Apparently they mean little beyond an unbuttoned propensity to put forth loose and untestable theories in the guise of historical fact, to offer "brilliant insights" and selected scraps of history in place of plodding analysis. Baran seems to harbor a metaphysical belief in laws of historical evolution—laws transcending the complexly-interacting laws investigated by particular sciences. He presumably would deny that "the space-time relations of any given situation ... are unique. ... History is unique, it deals with unique events, and it is not concerned with laws and prophecy." (James C. Malin, *On the Nature of History*, Lawrence, Kansas, 1954, pp. 1, 67).

This reviewer found Baran's rehash of old slogans almost unbearably tiresome. He can think of only one thing to praise: Baran's forthrightness.

University of Virginia

LELAND B. YEAGER

The Economics of Discrimination. By Gary S. Becker. Chicago: University of Chicago Press, 1957. Pp. ix, 137. \$3.50.

For the readers of this journal, *The Economics of Discrimination* may well be the most important book of the year. It marks the first time that a professional economist has attempted a detailed study of the economic consequences of racial prejudice. (In the two-volume *American Dilemma*, Myrdal the sociologist firmly held in check the analytical bent of Myrdal the economist.)

Becker takes his approach from international trade. The discriminating individual is presumed to have a taste for discrimination—"to act as if he were willing to pay something, either directly or in the form of a reduced income, to be associated with some persons instead of others" (p. 6). The taste for discrimination as it affects the dealings of Negroes and whites is thus akin to a tariff barrier impeding trade between two countries and the generalizations appropriate to the economic consequences of protection apply to race relations. For example, (a) a taste for discrimination lowers real income by misallocating resources, (b) Negroes as the smaller and poorer group suffer most, (c) Negroes would suffer less if they had more capital, (d) white workers may gain by discriminating but white capitalists undoubtedly lose, and (e) if Negroes retaliate by cultivating a taste for discrimination they will drive their incomes even lower. While these conclusions will not surprise economists, they are worth underlining if only to dispel the widely held view that white capitalists are the main beneficiaries of discrimination.

Becker, however, does much more than call attention to that which should be obvious. Using Census data on occupations and earnings, he seeks to find "coefficients of market discrimination." This is a difficult business since, insofar as Negroes have less education and property than whites they will receive lower incomes in the best of worlds. Nevertheless, an elaborate analysis leads Becker to conclude that, *ceteris paribus*, "individuals in the South appear to have had, on the average, slightly less than twice as much taste for discrimination as those in the North" (p. 102). Moreover, within each region tastes for discrimination are not much affected by age, education, or the percentage of Negroes in the population.

Although impressive, Becker's analysis does not inspire complete confidence. Thus he holds that degree of monopoly is probably one variable affecting market discrimination. For monopolistic industries will tend to practice more discrimination against Negroes than competitive industries because restrictions on entry limit the advantage that would otherwise be enjoyed by employers with scant taste for discrimination. The Census data on southern industries appear to confirm this premise. This reviewer suggests that closer study would show that monopolistic industries in the South employ more costly grades of labor—and, hence, a greater percentage of whites; and that their racial employment policies are more influenced by collective bargaining than are those of competitive industries. In fact, few competitive industries in the South employ, percentage wise, as many Negroes as tobacco manufacturing—a highly concentrated trade. The presence of Negroes in tobacco in their present numbers is a matter of historical accident. Negroes gained an important place in the industry when it was unorganized and much "dirtier" than now and have used their power in the Tobacco Workers Union to slow the shift of jobs to white workers that the union's high wage policy has encouraged.

Again, the notion of a taste for discrimination has serious limitations. Most whites have not one but many tastes for discrimination which are not necessarily consistent. People who most strongly object to the employment of a Negro girl as a kindergarten teacher may consider her an ideal nursemaid. One must take exceeding care in treating irrational behavior *as if* it is rational behavior.

As a basis for prediction, Becker's analysis has little usefulness. It implies that the gulf between white and Negro incomes will narrow as Negroes become better educated, accumulate property, move north, and the white taste for discrimination declines. On the crucial question of how a taste for discrimination changes, this book sheds no light. In analyzing the economic features of discrimination, good economic theory—and Becker's is very good indeed—is not enough.

This review will close with two melancholy reflections. The first is that this work will do nothing in the wider world to deny our discipline's reputation as the dismal science, e.g., "suppose there are two groups, designated W and N, with members of W being perfect substitutes in production for members of N" (p. 9). Or "the analysis in this monograph can be viewed as a case study in the quantitative analysis of non-pecuniary variables" (p. 131). No doubt a cool head

should restrain a warm heart. But is it necessary to write "as if" racial discrimination is an interesting economic problem and nothing more? The second reflection is that, apparently, economists in the South must still look to Chicago for pioneer work on the region's important problem.

Duke University

DONALD DEWEY

Activity Analysis and the Theory of Economic Equilibrium. By Helen Makower.

New York: St. Martin's Press. London: Macmillan, 1957. Pp. xiv, 192. \$5.75.

Up until recently economists have been working with concepts which bear a close affinity to certain mathematical methods. Thus marginal productivity and the marginal rate of substitution of Y for X , concepts used in production and consumption theory, can be interpreted by differential calculus. By extending the use of calculus systematically, using any number of variables and making use of certain topics in algebra, such as quadratic forms, an approach to basic economic theory can be built up. Certain qualities are inherent in the approach: (1) the method leaves unspecified the particular form of the production function or indifference curves; (2) the method deals only with small changes in the data; (3) it commonly employs equations.

It is the purpose of the book under review to bring to the attention of economists an alternative approach which goes under the title of activity analysis or linear programming. Activity analysis is built up from different mathematical bases, among which the following may be mentioned: (1) the method makes use of linear functions which can conceivably be identified and applied to specific cases; (2) the method handles large changes in the data; (3) it commonly employs inequalities. At the outset a formidable difficulty presents itself. Despite the use of linear relationships in the work, there is no known method of securing an immediate answer to the problems formulated. Instead, a method of iteration or repeated calculation is required to find a solution for the quantities and prices.

Since the founders of activity analysis have been concerned primarily with developing theorems, they have made little attempt to restrict the mathematics. In contrast, the author seeks to act as apostle for this new approach, explaining the several concepts with simple tables and numerical examples. Occasionally, "old fashioned" geometrical methods are employed. Among the topics covered are: the allocation of resources, marginal productivity and marginal rates of substitution, the solution for prices and quantities, and exchange. Subsequently, the author applies the new method to the theory of taxation and specialization, as well as certain other topics such as the "Ricardo effect." Among the most interesting topics is a discussion designed to dispel the notion that the linearity of the functions employed implies constant returns to scale.

Inevitably, the question arises as to whether the author's attempt to simplify this alternative approach to economics was successful. At points where the author allows herself space for extended discussion, as in the opening chapter, she seems remarkably successful. At other points, notably in the last chapter, where

variables and activities multiply, the reader may wonder at some of the tables. On the whole, the book seems to be a praiseworthy attempt to find paths in the fastnesses of latter-day econometrics.

University of Alabama

JOHN S. HENDERSON

Europe and the Money Muddle. By Robert Triffin. New Haven: Yale University Press, 1957. Pp. xxvii, 351. \$5.00.

Triffin's many admirers will find no cause for discouragement in this present study of the move "from bi-lateralism to near-convertibility" over the years 1947-56. This is a thoughtful volume, descriptive in the best analytical sense, forcefully written, and generally persuasive in argument.

Triffin's principal preachment is caution in too hasty a drive to attain literal full convertibility. The theme is carefully fortified out of the international and interregional problems of adjustment to the postwar dollar shortage, the European economic collapse of 1947, the Korean conflict and the faltering experiments with bilateralism.

Quite apart from the theme of the book—and there will be some who will quarrel with this theme—Triffin's study appears to be a near indispensable reference volume for those who have reason for preoccupation with the problem of international economic stability (or instability?). The historical analysis of the dollar shortage, of Europe's postwar economic collapse and recovery constitutes background material of real utility. Chapter 3, a discussion of the various international currency plans under consideration in the 1944-47 period, should be required reading for all who are impatient with convertibility progress to date. It constitutes a useful reminder of the stresses which build beneath the surface of international discussion.

Triffin moves skillfully through the maze of bilateral plans to the conception of an intra-European settlements system. His discussion of the European Payments Union is a wholly competent job and displays a nice awareness of the intricacies involved in the transition from a theoretical plan to practice in a political world.

If others find, as this reviewer did, that Triffin's discussion of the "approaches to convertibility" was less satisfactory than the earlier portions of his book, the fault lies less with Triffin than with the fact that this is a discussion not easily managed in its own right. The play progresses, but the plot is muddled. But, of course, Triffin has titled his book "the money muddle." Some readers will no doubt feel that Triffin has written his drama on the premise that convertibility was the goal; has carefully shown the perils which beset the march to convertibility; and finally, at the conclusion, has suggested that after all convertibility is not itself very important. This may be a letdown for some.

One further comment. Triffin's introduction is cast in the form of a book review by Triffin, of Triffin. It is a critical review subtly well done. The Table of Contents is more in the form of a "reader's guide." For example, readers are told that Chapter 6, for example, contains little that an intelligent reader could not find in the financial section of the *New York Times*. Chapter 8, his con-

cluding chapter, is noted by Triffin as the Chapter he would most like to have Secretary Humphrey—or his successor—read.

University of North Carolina

MAURICE W. LEE

The Mechanics of Inflation. Report of the Committee on Economic Policy. Washington, D. C.: Chamber of Commerce of the United States, 1957. Pp. 67. \$1.00.

This booklet is justified by its authors on the grounds that the continued steady rise in prices and costs in peacetime provides adequate cause for serious public concern about inflation, and that . . . "there is an urgent need for greater public understanding of the mechanics of inflation. This report attempts to help meet that need."

The report makes no original contribution to the theory of inflation or its control, but it does a good job of summarizing the current consensus among economists. It is well-written, well-organized, and short enough to be finished in one evening by an interested, literate person not especially trained in economics. (The discussion occupies only about 35 pages; the rest of the page space is covered by tables, charts and an appendix that do not have to be read in order for one to follow the discussion.)

The analysis is of necessity incomplete, but it is sound. Inflation is treated as a process whereby the purchasing power of the dollar in all major uses is reduced. Involved in the process are rapid economic growth, the banking system, the level of government expenditures, government guarantees of full employment, price policies of business enterprises, and wage policies of labor unions.

As might be expected in a publication of the U. S. Chamber of Commerce, much more attention is given to the potential inflationary effects of the wage policies of powerful labor unions in conjunction with government guarantees of full employment than to business price policies in this same connection. The writers of the report appear to assume a somewhat greater amount of price competition than many economists think exists among large business enterprises. Nevertheless, the report is analytical rather than dogmatic and partisan, and is about as well-rounded as can be expected of so brief a report on this subject.

Clemson College

JAMES M. STEPP

Fluctuations, Growth, and Forecasting. By Sherman J. Maisel. New York: John Wiley & Sons, 1957. Pp. ix, 552. \$7.50.

The author presents aggregative economics as an alluring substitute for the orthodox business cycles text. He shows how the businessman can harness this relatively new body of factual understanding *en masse* to improve his "batting average" on major policy decisions. The case method is followed extensively. Forecasting techniques are stressed throughout.

Parts I and II describe our "dynamic economy" and "assembling of information" for analysis. The information utilized is the framework of national income and product accounts. Individual spending units—consumers, business, government—are the decision makers in a free economy, and "focusing attention on

the decision units makes it possible to integrate the national income concepts with cycle and growth theory."

Part III consists of 9 chapters of "studies in spending decisions" and Part IV is "forecasting." Actually, there are more forecasting examples in Part III, e.g., nondurables, autos, college enrollment, steel, inventories, housing, and a price forecast. Several forecasts, however, are historical description rather than a detailing of forecasting technique. Despite its title of forecasting, two-thirds of Part IV describes the business cycle and U. S. cycle history, 1913 to date. The last chapter, however, explains the National Bureau statistical indicators and diffusion indexes and gives an example of projecting GNP.

Analysis of decision-making leads to analysis of policy in Part V. Government, business, and individuals are discussed in their roles of investors and savers. Government policies—monetary, fiscal, public works, housing—get the most attention. A quoted case history of government decision-making in the 1953-1954 recession is especially interesting at the moment.

Tables 18-1 and 19-1, basic tables to the text, warrant more careful preparation and documentation. Beginning date of the tables is 1913, but Fig. 2-1 begins 1900. Actually, data on real output per man-hour available from government sources begin 1909. Quoted source of Table 19-1 ends 1953 but table extends through 1956. Text references to stock price changes shown in Fig. 2-3 appear erroneous; rise in annual averages 1920-1929 approximates 200 percent, not 300; 1932 average is 25 percent of 1929 high, not 10. Fig. 2-6 would be more useful if the underlying data were described briefly in the source note.

The illustration on p. 49 of the dangers in use of trends may unduly deter some readers from engaging in the highly useful analysis of growth rates. The author's straight-line trend 1937-1949 revealed an annual growth rate of 3.3 percent, but 1936-1950, over 5. This reviewer's check suggests that the more relevant distinction is between a compound rate of growth calculated from the first and last year and the preferable method based on all years in the period. The former gives 3.5 and 4.9 percent, or close to the author's figures; the latter (Glover's exponential), 3.1 and 3.8. The author also fails to make clear that differences resulting from fitting various mathematical trends are much greater in extrapolation than in description of past data.

Criticism of some details does not vitiate our conclusion as stated at the beginning of this review. The volume deserves careful consideration as a text in courses dealing with economic fluctuations and/or national income. Although the emphasis is on aggregative economics, or as the author might prefer, dynamic business economics, much typical business cycles text material is included, e.g., long waves, 18-year building cycle, acceleration principle, multiplier, and consumption function.

University of Miami

RICHARD M. SNYDER

Problems of Capital Formation: Concepts, Measurement, and Controlling Factors. By the Conference on Research in Income and Wealth. A Report of the National Bureau of Economic Research. Princeton, N. J.: Princeton University Press, 1957. Pp. xi, 612. \$7.50.

These fifteen papers presented at a conference on income and wealth, together with the printed discussion of each of these papers, provide a wide range of material on the major aspects of capital formation. Because of the variety of subjects and differences in backgrounds and theories of the contributors, no generalizations can be made as to validity of the concepts used and conclusions reached. The discussions following each paper highlight both the strong and weak points of that paper. Since the topics treated include those aspects of this general subject which are controversial and exploratory, these comments by discussants serve to keep the reader on an even keel.

The articles are grouped in three parts. Part I is made up of papers which estimate several of the different components of capital formation and how this growth has been financed. Part II, evidently the major emphasis of the book, deals with measuring capital coefficients for several industrial groups. In Part III is a group of papers discussing specific factors which affect private capital formation.

This book is an excellent source of statistical data on many phases of capital accumulation. Some of this information goes back to 1889 and measures the effect of cycles on capital growth. One cannot tell from the articles how reliable these data might be, nor to what extent rather crude guesses may have been used to complete the data. However, it is reasonable to conclude that these results are as reliable as any available anywhere, since the contributors have been objective and exhaustive in their methods. The actual capital coefficients presented should be used with care and substantial qualification. Variability problems which defy measurement mean that these coefficients must be accepted upon faith, and may be no more than the results of an extensive exercise in arithmetic. This is an area of study where concepts easily can outrun application.

The concluding paper should be read by all those who use opinion surveys to estimate future expenditures for plant and equipment. This article is a very timely warning that such results are likely to be very misleading. The author presents some excellent points to be considered when such surveys are used by economists.

University of Texas

W. H. BAUGHN

The World Dollar Problem. By Donald MacDougall. New York: St. Martin's Press, 1957. Pp. xvii, 622. \$12.50.

Professor Donald MacDougall's volume is a timely and serious contribution to the current discussion of the dollar gap: It appears at a moment of renewed apprehension of the emergence of a dollar shortage, caused by the substantial surplus in the United States balance of payments and by the loss of gold by the non-dollar world to the United States for the first time since 1952. And it discusses exhaustively the question whether the dollar problem was solely one of postwar adjustment, as some economists have argued, or "whether, in fact, over the next ten or twenty years, there is likely to be a tendency for the rest of the world to run into deficit with the U. S."

The easing of the dollar shortage in the years just prior to the recent reversal

of the favorable trend encouraged the hope that the dollar problem might be nearing a permanent solution. But MacDougall attempts to show that this optimistic view is probably not justified. "It is greatly to be hoped that this is the case but it would seem only prudent to examine the matter as carefully as possible before jumping to such a pleasing conclusion." In over 400 pages of text (technical economic and statistical matter is confined to 200 pages of appendices) the author makes a searching examination of the various possible reasons why there may be a chronic, or recurring, dollar problem over the next two decades, as well as suggests some implications for policy.

MacDougall sees the source of the world dollar problem in that "In terms of productive power the non-Communist world is divided into two roughly equal parts—the United States and the rest. The U. S., with only one-tenth the population, produces roughly as great a quantity of goods and services as all the other nations put together. Each of these great areas trades about 5 per cent of its output with the other, but if this trade gets out of balance the resulting troubles can be much more serious than such a low figure would suggest." Hence he argues that the dollar problem can be solved only by an easy balance of payments of the rest of the world with the United States on current account, "but allowing for all grants and capital movements other than U. S. government aid which has as an important objective the relief of dollar shortage." Moreover, since the trade of the rest of the world with the United States is only about 5 per cent of its total output, "The essential problem (as he sees it) seems . . . to be that of balancing accounts between the U. S. and the rest of the world and not, as some other writers have suggested, the danger of a long-run deterioration in the rest of the world's terms of trade with the U. S. For, if balance of payments difficulties can be avoided, the effect of such a deterioration would be small for the rest of the world as a whole . . ."

Now what is the prospect that such balance will in fact be achieved over a long period, or, alternatively, what remedial measures can be taken to avert the danger of reemergence of the dollar problem? MacDougall answers the first part of the question negatively, stating "that; while a recurring tendency for the rest of the world to run into deficit with the U. S. is by no means inevitable, it is perhaps more likely than not to be a feature of the next couple of decades . . ." Consequently, he warns that governments, in framing their policies in various fields, "should not overlook the distinct danger that, despite the favourable experience in recent years, a dollar problem will reemerge in which every country is liable to be involved and which could have widespread economic and political repercussions." MacDougall makes clear that both national and international action will be necessary to avert the danger of a dollar shortage. He suggests that the most important action would be a large-scale liberalization of the United States commercial policy. The non-dollar countries could also help to improve their position by stopping their price levels from rising, by speeding up the rate of innovation and the development of new products, and by a greater stabilization of primary commodity prices. However, the author feels that despite all efforts, the rest of the world may still run into serious deficit with the

United States when its gold and dollar reserves are at a low level. Discrimination against the dollar may then be inevitable. But this might be avoided by "An increase in the dollar price of gold—hitherto firmly opposed by the U. S. . . ." These arguments and conclusions are provocative and challenging, and undoubtedly will generate discussion on both sides of the Atlantic. But Professor MacDougall's book is a must for everyone concerned with international economics and politics.

Washington, D. C.

ARTHUR LEON HORNIKER

Banks and Politics in America From the Revolution to the Civil War. By BRAY HAMMOND. Princeton: Princeton University Press, 1957. Pp. 771. \$12.50.

In a brief *Preface*, Mr. Hammond explains his reasons for writing this book as follows. "I was led into writing it from some familiarity with banking, because of which I had found myself puzzled frequently by two things. One was hearing history invoked to support notions about money and banking which I doubted if it could in fact support. The other was that in respect to the Bank of the United States and Andrew Jackson, interpretations were offered and accepted without attention to the obvious resemblance of that institution to modern central banks."

Furthermore, though an author's own views on this subject are not always to be accepted at face value, Mr. Hammond seems in this passage to have captured the negative dimension of his own mood quite well. The chip is carefully balanced on the shoulder at the outset, and its presence is felt by the reader throughout.

Nor is that quality in this volume emphasized here as a defect. While it is often characteristic of scholarship to be cautious and tentative, and while Mr. Hammond's work could hardly be described by either of these terms, it is nonetheless the fate of much scholarly writing to be so thoroughly qualified that it is difficult to be certain just where the author does stand. This, however, is a complaint which will not be made of *Banks and Politics in America*. Mr. Hammond makes of his ideas a perfect target—and there will be few among his readers who will not, repeatedly, be impatient to pull the trigger.

Now it is of course true that a polemic approach invites exaggeration, and to this generalization the book under review here is no exception. Thus the resemblance between the Second Bank of the United States and modern central banks has been much more discussed than Mr. Hammond's presentation would suggest. And it is by no means a new idea that borrowing is not always a response to distress, that in fact "a chronic and significant condition of American life has been . . . the prosperous use of borrowed funds by businessmen."

But propositions such as these are not the main business of *Banks and Politics*. Rather, true to its title, this book concentrates most heavily on the relationships between politics and institutional evolution in the money and banking field. It is therefore propositions such as the following with which the reader will most frequently come into contact—and against which many readers will react most strongly.

1. In colonial times the demand for paper money came primarily, not from farmer debtors, but ambitious businessmen who could appreciate the value in a capitalist society of expanding the circulating medium.

2. In the early days of the nation, the principal pressure against central banking came, not from agrarians whose objective was actually to do away with all banks, but aggressive businessmen who feared the effect of central bank restrictionism on state banks.

3. The battle over the Second Bank of the United States was primarily a battle not between farmers and capitalists over banking as an institution, not between state righters and centralists over the structure of American banking, not between New Yorkers and Philadelphians over the location of the nation's central bank, but between Hamiltonian centralists and early 19th century liberals over the issue of laissez faire.

Because this is a large book, into which its author has obviously put years of painstaking investigation, it would be inappropriate in a few short sentences to pass judgment on the validity of its major conclusions. Suffice it, therefore, to conclude by saying that the scholarship which has here been devoted to significant questions makes this a book with which serious students of American financial history during the period covered therein ought to come to grips.

University of Georgia

HOWARD R. SMITH

The Brazilian Cotton Manufacture: Textile Enterprise in an Underdeveloped Area, 1850-1950. By Stanley J. Stein. (Studies in Entrepreneurial History Published in Cooperation with the Research Center in Entrepreneurial History, Harvard University). Cambridge: Harvard University Press, 1957. Pp. xii, 273. \$5.00.

"Brazil will indeed be a world power on the day we Brazilians drink imported coffee." This prophecy, attributed to a government official interested in the textile business, seemed hardly facetious in the 1940's. In the midst of a world-wide dearth of cotton cloth, Brazil became an important exporter (e.g., 26 million kilos in 1943); but postwar recovery in other countries left Brazil behind in the race to gain or recapture important markets. And an unsympathetic government rebuffed the demands of the industry for subsidies to help it maintain its precarious hold on foreign trade in cotton goods.

Generally, Professor Stein demonstrates, government policies favored the growth of the textile industry. The first mills grew up behind the protective tariff of 1844. Although the first tariff commission (1853) espoused free trade, higher duties on cotton goods (1867 and 1879) responded to a growing sentiment in favor of deliberate industrialization for the sake of "economic liberation." Exchange depreciation in the 1890's had the same effect as tariff increases, while easy credit and the multiplication of banks of issue encouraged the growth of joint-stock ventures. Tariff revision was again called upon to alleviate the ills of the industry in the late 1920's, but the most important counter-cyclical measure was the prohibition of imports of textile machinery (1931). On the eve of

World War II government aid was demanded to re-equip obsolete mills, because modernization was now essential to the "wealth of the nation."

The chronic complaint of overproduction, unfair competition, especially foreign, and other perennial problems of the Brazilian mills present striking parallels with the development of cotton manufactures in the United States. After 1850 the use of slaves was abandoned in favor of immigrants and native laborers—men, women, and children—who were drawn into mill communities in much the same way that early New England and southern mills acquired their labor force. The first Brazilian mills arose in the cotton-growing states of the North, but the subsequent expansion of textile manufacturing around Rio and São Paulo split the industry, "pitting northern against southern mills, small dispersed interior mills against large urban factories, and mills of coarse goods production against those of fine goods production." Conflicts of interest prevented the industry from uniting in pressing measures (cartelization, limiting machine hours, and curtailing the domestic manufacture of textile machinery) to combat overproduction. Mill wages (1938) were "wretched" in Rio, "infamous" in São Paulo, and "hopeless" in Pernambuco—how wretched, infamous, and hopeless we are left to guess, since the author furnishes no data on wages and earnings after 1900.

So little is known of industrial development in countries which are often supposed to lack industries that Stein's work in many respects breaks new ground. In addition to unravelling massive evidence relating to industry-government relations, production, marketing, and financing, he has searched company records for data on the management of individual firms. Entrepreneurs, in Brazil as elsewhere, are not cast into one mold; but a Brazilian's comment that what the country needs is "modernization of the mentality of our captains of industry" seems to be unfair only to an enlightened minority in the textile industry.

It behooves a reviewer, I suppose, to let it be known that he has not read a perfect book. I find it a bit misleading to say that sterling exchange fell (p. 32), as well as to suggest that specie shipments lowered the milreis' value (p. 91). I expected the author to note that higher customs duties do not necessarily increase revenue (p. 85). Finally, I wonder why Brazilians are censured for failing "to see the handwriting on the wall" (p. 116). Where, in the world of 1925, were there businessmen, or even economists, who saw the handwriting or, having seen it, did not mistake it for unintelligible hieroglyphics?

Duke University

ROBERT S. SMITH

The Full-Fashioned Hosiery Industry in the U. S. A. By J. D. De Haan. The Hague, Netherlands: Mouton & Company, 1957. Pp. 7, 188. Paper, \$3.00.

The American hosiery manufacturing industry consists of several segments, the most important of which up to this date has been the manufacture of full-fashioned hosiery for women. It is with this aspect of the industry that the subject publication is concerned, but since much of the data and many of the conclusions are applicable to the industry as a whole, the coverage is somewhat

broader than the title implies. Accordingly, the book should be of particular interest in the South where the manufacture of hosiery is now heavily concentrated.

The materials are organized in twenty chapters that vary in length from three to thirty-two pages. The first contains a general historical account of the industry's development. Single chapters then follow on raw materials used, technical organization of the industry, equipment trends, structure of the industry, and marketing. The next twelve chapters, requiring two-fifths of the space utilized, are concerned with locational factors, and the two final chapters with the problem of over-production and the future of the full-fashioned industry, respectively. The book is thus typical of the literature available on the hosiery industry, for it relates primarily to the full-fashioned segment of the industry, it is production-oriented, and, as a corollary of the latter, the problems of marketing are given comparatively little attention.

The author recognizes that marketing has some significance, however, and he points out that this aspect has not received the attention it deserves in literature. Further, he concludes that the marketing of hosiery will be tied in with manufacturing to a greater extent than in the past. Nevertheless, in the point of view he adopts, as well as in his presentation, marketing is relegated to a position of secondary importance.

Technical production problems have always been numerous and difficult in the hosiery industry and have required the primary attention of management. The emphasis placed on these aspects has been responsible for the significant improvements made in machinery, plant facilities, processes, and products. At the same time, this one-sided interest has caused marketing considerations to be neglected and has created serious problems for the entire industry. Except for a few relatively short and infrequent periods of time, the industry has suffered from over-production and suicidal price-cutting. Until market requirements are assessed more wisely and sounder marketing policies are adopted, these ills can be expected to continue. It is unfortunate, therefore, that the author, who appears to have a comprehensive knowledge of the industry, has not given more attention to distribution and its problems.

Although not as much attention has been given the marketing problems of the hosiery industry as this reviewer believes they justify, the author has made a most worthwhile contribution to the literature in this field. Thorough research of library sources and extensive field investigation are apparent throughout the presentation. An excellent list of bibliography is cited, and much information has been brought together from a wide array of sources, many of which are not accessible in university libraries. Therefore, the book will be most helpful to those who undertake further research in this area, and it will be of interest to those who desire to learn something of an industry that has migrated in large part to the South in recent years.

University of North Carolina

C. H. MCGREGOR

NOTES

CONSTITUTION OF THE SOUTHERN ECONOMIC ASSOCIATION*

CONSTITUTION

ARTICLE I

NAME

The name of this Association shall be "The Southern Economic Association."

ARTICLE II

OBJECT

The object of the Association shall be to stimulate interest in economic questions through discussion, research, and publication. Special emphasis shall be given to problems relating to the development of the South.

ARTICLE III

MEMBERSHIP

Any individual, institution, or organization interested in promoting the object of the Association may become a member upon the payment of the annual dues required in the By-Laws.

ARTICLE IV

OFFICERS

The Association shall have the following officers who shall be elective officers: a President, two Vice-Presidents, a Secretary-Treasurer, and four elected members of the Executive Committee. The terms of office of the President, Vice-Presidents and Secretary-Treasurer shall each be one year. The terms of office of the four elected members of the Executive Committee shall each be two years. Two of the four terms of the four elected members of the Executive Committee shall expire each year. With the exception of the Secretary-Treasurer, no officer of the Association shall be eligible to succeed himself. In the event of the death, resignation, or disability of the President, the duties of the office shall devolve upon the Vice-President who received the higher vote in the election and the other Vice-President, in that order.

ARTICLE V

EXECUTIVE COMMITTEE

The executive Committee of the Association shall consist of the President, the two Vice-Presidents, the Secretary-Treasurer, the two immediate past Presidents, the elected members of the Executive Committee, and the Managing Editor of the *Southern Economic Journal*.

* As amended and adopted at the annual business meeting on November 9, 1957.

ARTICLE VI

MEETINGS

There shall be every year one regular meeting of the Association at a time and place to be designated by the Executive Committee, for the transaction of business, the presentation of the program, and the discussion of economic and business problems. At the business session the President, the Secretary-Treasurer, the Managing Editor of the Publications shall make their reports, and the results of the election of the officers of the Association for the ensuing year shall be announced. All members shall be notified of the time and place of the annual meeting at least two months before the date of such meeting. The members present at the meeting shall constitute a quorum. Each individual member shall have one vote and each member institution or organization shall have one vote.

ARTICLE VII

AMENDMENTS

This constitution may be amended by a two-thirds vote of the members present at any annual business meeting, provided that a copy of the proposed amendments shall have been given to the members at least one month in advance of the meeting.

BY-LAWS

SECTION 1. *Membership.* The annual membership dues for individual members shall be five dollars (\$5.00); for contributing members, fifteen dollars (\$15.00); for life members, one hundred dollars (\$100.00); for institutional memberships, one hundred dollars (\$100.00); for student members, two dollars (\$2.00). Life members shall be exempt from annual fees. Members shall receive without further cost the publications of the Association. Membership shall date from the beginning of the quarter following the receipt of the first annual dues paid in each case. Members who shall be in arrears of dues for more than six months shall be dropped from the membership roll. Members in arrears for more than three months shall be dropped from the mailing list of the publications.

SECTION 2. *Election of Officers.* Within two months after the annual meeting the President of the Association shall appoint a Nominating Committee consisting of three members. The names of the members of the Committee shall be published in the April issue of the *Southern Economic Journal*. Members may submit suggested nominations for the various officers to the President or the Secretary-Treasurer of the Association. The Nominating Committee shall present to the President on or before June 1 of each year a nominee for President, a nominee for Secretary-Treasurer and two nominations for each of the other elective officers to be filled, the nominees being members of the Association. The candidate for President and the candidate for Secretary-Treasurer shall be selected by a joint committee consisting of the members of the Executive Committee and the Nominating Committee.

Officers shall be chosen through elections to be held during three months prior to the annual meeting. Each member shall be given the opportunity to vote by mail. Space shall be provided on the ballot for the individual member's alternative choice.

SECTION 3. Duties of Officers. The President shall be the general executive officer of the Association, shall administer the affairs of the Association under the direction of the Executive Committee and shall appoint all committees. He shall be responsible for the preparation of the annual program in consultation with the other members of the Executive Committee.

The Secretary-Treasurer shall keep the records of the Association; receive, disburse and have custody of the funds of the Association, and perform such other duties as the Executive Committee may assign to him.

The Executive Committee shall conduct the affairs of the Association. This Committee shall have the duty of procuring adequate funds for the Association and shall have control and management of such funds. It shall have the responsibility of maintaining and increasing the membership. It may fill vacancies in the list of officers. It may adopt rules and regulations for the conduct of the Association's business not inconsistent with the Constitution or with rules adopted at the annual meeting. It shall act as a committee on time and place of meetings.

SECTION 4. *Southern Economic Journal.* During the continuation of the joint publication of the *Southern Economic Journal* by the Association and the University of North Carolina, the Managing Editor of the *Journal* shall be appointed by the University of North Carolina. The Executive Committee shall elect the number of Editors of the *Southern Economic Journal* determined by agreement with the University of North Carolina. The terms of service of these Editors shall be for a period of three years. In case vacancies occur between meetings of the Executive Committee, the President shall have the power to fill such vacancies.

The Managing Editor shall confer with the Executive Committee concerning policies with respect to the publication of the *Southern Economic Journal*, and the Executive Committee shall have final authority with respect to such policies, not inconsistent with the agreement with the University of North Carolina for the publication of the *Journal*.

SECTION 5. Amendments. Changes in these By-Laws may be proposed by the Executive Committee or any member of the Association, and may be voted upon at any regular business meeting.

THE SOUTHERN ECONOMIC JOURNAL

Receipts and Expenditures, 1956-1957

Cash Balance, November 1, 1956	\$ 5,590.49
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Receipts

University of North Carolina

Balance Annual Grant for 1956-57	\$1,000.00	
Advance on Annual Grant for 1957-58	1,000.00	\$2,000.00

Southern Economic Association

Annual Membership Dues	\$2,236.00	
Institutional Membership Dues	1,000.00	
Contributing Membership Dues	90.00	
Student Membership Dues	23.00	\$3,349.00

Office of Managing Editor

Subscriptions to Journal	\$2,718.20	
Advertising	1,602.24	
Sales of Individual Copies	903.61	
Building and Loan Dividend	87.50	
Miscellaneous	20.00	\$5,331.55

Total Income		\$10,680.55
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Total Cash Balance and Income		\$16,271.04
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Expenditures

Printing the Journal	\$6,743.49	
General Expense	126.77	
Other Printing	74.92	
Postage	204.56	
Supplies	275.31	
Advertising	57.50	
Secretary's Salary	2,321.56	
Purchases of back copies of Journal	10.00	
Travel	29.70	
Refunds	86.99	\$9,930.80

Investment Account

Original Deposit	5,000.00	
Dividend Redeposited	87.50	\$5,087.50

Cash on Hand, October 31, 1957	\$1,252.74	\$16,271.04
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Investment Account

January 2, 1957—Deposited with Orange County Building and Loan Association, Chapel Hill, N. C.	\$ 5,000.00
Dividend Deposited	87.50
Balance, October 31, 1957	\$ 5,087.50

Fund Balances

Checking Account, University National Bank, Chapel Hill, N. C.	\$ 1,252.74
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Investment Account, Orange County Building and Loan Association, Chapel Hill, N. C.	5,087.50
Total Funds, October 31, 1957	<u>\$ 6,340.24</u>

G. T. SCHWENNING
Managing Editor

ANNOUNCEMENTS

The twenty-eight annual conference of the Southern Economic Association will be held on November 21 and 22, 1958, at the Hotel Atlanta Biltmore, Atlanta, Georgia.

President Howard R. Smith has appointed the Nominating Committee for the 1959 officers of the Southern Economic Association. It consists of Ernst W. Swanson, Georgia Institute of Technology, Chairman; James M. Buchanan, University of Virginia; and Richard H. Leftwich, Oklahoma State University. As stated in the Constitution: "Members may submit suggested nominations for the various officers to the President or the Secretary-Treasurer of the Association."

WALTER S. BUCKINGHAM, JR.
Secretary-Treasurer

SOUTHERN ECONOMIC ASSOCIATION

Receipts and Expenditures September 30, 1956-September 30, 1957

Cash on hand, National Bank of Athens (Ga.), Sept. 30, 1956	\$1,010.34	
Receipts, Sept. 30, 1956-Sept. 30, 1957	3,975.40	
		<u>\$4,985.74</u>
Expenditures, Sept. 30, 1956-Sept. 30, 1957:		
Postage	\$138.08	
Convention expenses (1956)	82.83	
Printing (1956 program)	235.71	
Secretarial	12.50	
Printing (new forms and stationery)	165.48	
Association's half share of		
bond for Managing Editor	62.50	
Constitution Committee expenses	114.37	
Marketing section expenses	27.92	
Southern Economic Journal	3,349.00	4,188.39
		<u>\$ 797.35</u>
Cash on hand, First National Bank, Atlanta, Ga., Sept. 30, 1957		

Investment Account

Balance September 30, 1956, Athens (Ga.), Federal Savings and Loan Association	\$ 608.21
Dividends	18.36
Balance, Sept. 30, 1957, First National Bank, Atlanta, Georgia	\$ 626.57

WALTER S. BUCKINGHAM, JR.
Secretary-Treasurer

APPOINTMENTS AND RESIGNATIONS

G. H. Aull, head of the Department of Agricultural Economics and Rural Sociology at Clemson College, has been appointed a director of the Charlotte Branch of the Federal Reserve Bank of Richmond.

Raymond F. Barker has been appointed instructor in marketing in the College of Business Administration, University of Texas.

Gordon E. Bell, assistant professor of economics at Duke University, has been granted a leave of absence to engage in the practice of public accounting.

Lewis Bell, formerly research associate in the University of Kentucky Bureau of Business Research, College of Commerce, is now director of the Division of Purchases, Kentucky Department of Finance.

Robert F. Bender, formerly of Crozier Technical High School (Dallas, Tex.), has been appointed associate professor of business education at Arkansas State College.

Richard Bennett has been appointed professor of management in the School of Business, Lamar State College of Technology.

Carl Bevin has been appointed research associate at the School of Business Administration, Emory University.

E. G. Boyd is instructor in business administration at Martin College.

Ted R. Brannon, formerly of the University of Texas and recently with Aramco of Saudi Arabia, has been appointed lecturer in management at the University of Florida beginning February 1958.

Gerald E. Breger has joined the staff in business administration at East Tennessee State College.

H. D. Brohm, professor of marketing at the University of Florida, resigned at the end of January.

Walter S. Buckingham, Jr., professor of economics at Georgia Institute of Technology, was re-elected secretary-treasurer of the Southern Economic Association for 1957-1958.

Allen M. Cartter, associate professor of economics at Duke University, is on leave to be program associate, Economic Development and Administration, The Ford Foundation.

Finley M. Chu has been appointed assistant professor of economics and

chairman of the Department of Economics and Business at Oklahoma Baptist University.

Marshal R. Colberg, professor and chairman of the Department of Economics at Florida State University, was elected vice-president of the Southern Economic Association for 1957-1958.

Alfred A. Cox, formerly of Ohio State University, has been appointed assistant professor of marketing at North Texas State College.

Edgar S. Dunn, Jr., associate professor of economics at the University of Florida, was elected a member of the board of editors of *The Southern Economic Journal* at the last annual meeting of the Southern Economic Association.

Walter R. Edwards has been appointed assistant professor of business administration at Arkansas State College.

Clyde H. Farnsworth is now teaching business administration at East Tennessee State College.

Patsy Freeman has been added to the Department of Economics and Business at Oklahoma Baptist University.

Robert W. French, member of the New Orleans Board of Port Commissioners, was appointed a member of the executive committee of the Southern Economic Association.

Robert S. Glover has resigned as assistant in agricultural economics from the Alabama Polytechnic Institute to accept a position as assistant professor of agricultural economics at Stephen F. Austin State College.

Harold Hampson, formerly a public accountant in Atlanta, has joined the Department of Accounting, Bob Jones University.

Richard C. Henshaw, Jr., associate professor of business statistics in the College of Business Administration, University of Texas, has been granted a leave of absence for 1957-58.

H. E. Hipp has been promoted to assistant professor of insurance and business law at the University of Florida. By error the October 1957 issue of this *Journal* listed the institution as being the University of Mexico.

William H. Hoffman, Jr., has been appointed instructor in accounting in the College of Business Administration, University of Texas.

Louise M. Hollenbeck has been appointed instructor in business education in the University of Miami School of Business Administration.

Virgil A. James has been appointed associate professor of management in the College of Business Administration and director of the executive development program in the Division of Extension, University of Texas.

Jerzy F. Karcy has been appointed part-time instructor in economics at the University of North Carolina for the spring semester of 1958.

Berdj Kenadjian is now the acting chairman of the Department of Economics and Business Administration at Wofford College.

John Q. Taylor King, who was recently awarded a Ph.D. in business statistics at the University of Texas, has been appointed chairman of the Department of Business Administration at Huston-Tillotson College.

Charles A. Kirkpatrick, professor of marketing at the University of North

Carolina, was appointed a member of the executive committee of the Southern Economic Association.

Roger F. Klein has been appointed director of the hospital administration program at the School of Business Administration, Emory University.

Dudley G. Luckett, who recently completed the requirements for a Ph.D. at the University of Texas, has accepted an appointment as instructor in economics at Iowa State College.

James W. Martin, long director of the University of Kentucky Bureau of Business Research, has been transferred from his official assignment as Kentucky Commissioner of Finance to one as Commissioner of Highways of the same state. In the second semester Commissioner Martin conducts a seminar on government finance administration at the University of Kentucky.

Leonard Mewhinney has been appointed assistant professor of management at North Texas State College.

Frederic Meyers, associate professor of economics, the University of Texas, has received a grant from the Fund for the Republic to study the effects of the Texas "right-to-work" statute.

Philip T. Meyers, of the University of Minnesota, has been appointed assistant professor of accounting in the College of Business Administration, University of Texas.

Kermit C. Moss, formerly of the University of Houston, has been appointed associate professor and head, Department of Business Administration, Arkansas A. & M. College.

William H. Nicholls, professor of economics at Vanderbilt University, was elected vice-president of the Southern Economic Association for 1957-1958.

Margaret E. Old is teaching business administration at Martin College.

William N. Parker, associate professor of economics at the University of North Carolina, has been appointed an editor of *The Southern Economic Journal* by the University of North Carolina.

John W. Paschall has been appointed instructor in economics at Arkansas A. & M. College.

Charles F. Peak has been appointed instructor of economics at Arkansas State College.

John Pearson has been appointed assistant professor of statistics at North Texas State College.

Robert B. Pettengill, professor of economics at Rollins College, has been appointed Florida correspondent for *The Southern Economic Journal*.

Ralph William Pfouts has been appointed director of Graduate Studies in Economics and Business Administration at the University of North Carolina.

Warren Rose, part-time instructor in accounting at the University of North Carolina, has been reappointed Ernest H. Abernethy Fellow in Southern Industry.

Carl P. Savage has been appointed instructor of business education at Arkansas State College.

Howard G. Schaller, professor and head of the Department of Economics at

Tulane University, was elected a member of the board of editors of *The Southern Economic Journal* at the last annual meeting of the Southern Economic Association.

Dorothy Ann Seggern has been appointed instructor in business services in the College of Business Administration, University of Texas.

Ansel M. Sharp has been appointed assistant professor of economics in the College of Business at Oklahoma State University.

Howard R. Smith, professor of economics at the University of Georgia, was elected president of the Southern Economic Association for 1957-1958.

Hampton K. Snell, professor of transportation in the College of Business Administration, University of Texas, has been granted a leave of absence for 1957-58. During this leave he is to work on a study sponsored by the Mississippi Valley Barge Line of St. Louis, co-operating with Inland Waterways Common Carrier Association of Chicago.

Joseph J. Spengler, James B. Duke professor of economics and director of Graduate Studies in the Department of Economics and Business Administration, Duke University, has been elected vice-president of the American Association for the Advancement of Science for the coming year. He has also been appointed to the editorial board of the newly established international quarterly, *Comparative Studies in Society and History*, representing the field of economics.

George A. Spiva has been appointed instructor in finance in the College of Business Administration, University of Texas.

William R. Sprigel, dean of the college of Business Administration, University of Texas, has announced his resignation from this position. The resignation will become effective as soon as a successor is chosen. He will continue teaching and research at the University of Texas in his professorship of management.

Hazel Stanford, formerly of Pearl River Junior College, has been appointed instructor in secretarial science at Arkansas A. & M. College.

John L. Stone, chairman of the Division of School Science and head of the Department of Business Administration at Arkansas A. & M. College, has retired.

Robert M. Taylor, formerly of the University of Toronto, has been appointed visiting associate professor of marketing in the College of Business Administration, University of Texas.

Earnest W. Walker, associate professor of management in the College of Business Administration, University of Texas, has returned to his duties after a year's leave of absence in a post with the Texas Commission on Higher Education.

Frank J. Welch, dean of the University of Kentucky School of Agriculture, is on leave to serve as a member of the Tennessee Valley Authority board of directors.

Harry D. Wolf, professor of economics at the University of North Carolina, has resigned from the board of editors of *The Southern Economic Journal* after serving continuously for sixteen years.

William Wilbur has been promoted to associate professor of economics at Wofford College.

Wilhelmina Zukowska has been appointed instructor in accounting in the University of Miami School of Business Administration.

NEW MEMBERS

The following names have been added to the membership of the Southern Economic Association:

- Harry Ainsworth, University of Arkansas, Fayetteville, Ark.
E. L. Baum, Agricultural Economics Branch, TVA, Knoxville, Tenn.
J. Leslie Bayless, Louisiana Institute of Technology, Ruston, La.
Thomas R. Beard, 2206 Perkins Road, Baton Rouge, La.
Robert W. Bell, University of Arkansas, Fayetteville, Ark.
James Bereos, 71 Hardeman Road, N. W., Atlanta, Ga.
William C. Biven, 3518 Glemsford Drive, Decatur, Ga.
William E. Black, U. S. Air Force Academy, Denver, Col.
Thomas W. Blackwood, University of Arkansas, Fayetteville, Ark.
Julian Earle Bolton, Jr., Georgia Institute of Technology, Atlanta, Ga.
Milton John Bondurant, Tougaloo Southern Christian College, Tougaloo, Miss.
Joseph M. Bonin, Louisiana State University, Baton Rouge, La.
E. J. R. Booth, Oklahoma State University, Stillwater, Okla.
Donald A. Boyd, Memphis State University, Memphis, Tenn.
Julian H. Bradsher, Oklahoma State University, Stillwater, Okla.
Francis J. Bridges, George State College, Atlanta, Ga.
Richard Brooks, Tougaloo Southern Christian College, Tougaloo, Miss.
James R. Brown, University of Alabama, University, Ala.
Vincent E. Cangelosi, University of Arkansas, Fayetteville, Ark.
Thomas G. Carpenter, Box 2476 University Station, Gainesville, Fla.
Yali-Plk Chali, University of Chattanooga, Chattanooga, Tenn.
Leslie E. Davis, Mississippi State College, State College, Miss.
Erie T. Curtis, University of North Carolina, Chapel Hill, N. C.
Joseph DiBerardino, Florida State University, Tallahassee, Fla.
Louis A. Dow, University of Oklahoma, Norman, Okla.
Selby Downer, University of Mississippi, University, Miss.
Philip Duriez, Louisiana State University, Baton Rouge, La.
M. H. Earp, Southern Methodist University, Dallas, Tex.
Warren W. Eason, Princeton University, Princeton, N. J.
Walter R. Edwards, Arkansas State College, State College, Ark.
Charles F. Eyre, 3652 S. W. 2nd Street, Miami 35, Fla.
C. H. Farnsworth, East Tennessee State College, Johnson City, Tenn.
Clinton S. Ferguson, East Tennessee State College, Johnson City, Tenn.
Hugh Folk, Duke University, Durham, N. C.
Harold A. Frey, University of Arkansas, Fayetteville, Ark.
A. A. George, Tougaloo Southern Christian College, Tougaloo, Miss.
Joseph C. Golden, Tennessee Polytechnic Institute, Cookeville, Tenn.

- Howard S. Gordman, 33 Gilmer Street, S. E., Atlanta, Ga.
R. Earl Green, Georgia Institute of Technology, Atlanta 13, Ga.
Orville J. Hall, University of Arkansas, Fayetteville, Ark.
John W. Hamilton, University of Tennessee, Martha, Tenn.
M. M. Hargrove, University of Tulsa, Tulsa, Okla.
Harmon H. Haymes, University of Virginia, Charlottesville, Va.
Murray Henry, 4009 Valley Ridge Road, Dallas, Tex.
Juanita G. Horton, Howard College, Birmingham, Ala.
W. L. House, P. O. Box 2543 Station Drive, Atlanta 18, Ga.
William Robert Ingram, Memphis State University, Memphis, Tenn.
James Lawrence James, Southern Methodist University, Dallas, Tex.
H. P. B. Jenkins, University of Arkansas, Fayetteville, Ark.
Louis Johnson, Jr., Tennessee Polytechnic Institute, Cookeville, Tenn.
Matthew H. Jonas, University of Texas, Austin, Tex.
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